

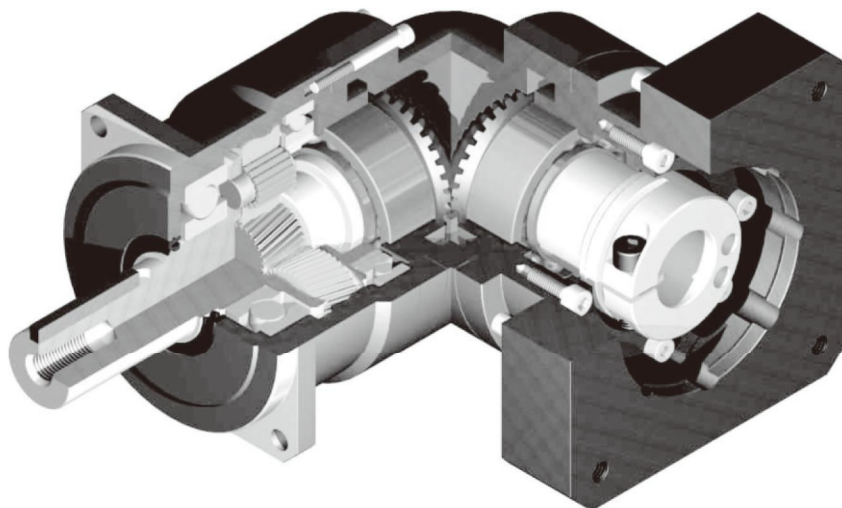
精密行星齿轮减速机

ABR

伺服电机专用



ABR series

**省空间**

直交型减速机使用螺旋式伞齿轮, 电机的安装可实现90度弯曲, 节省了安装空间。

Space - saving

Right angle reducer using spiral bevel gear
Customer can locate the motor at 90 degree away from the reducer if required to save space.

高刚性、高扭矩

使用整体式滚针轴承, 大大提高了刚性和扭矩。

High rigidity & torque

High rigidity & high torque was achieved by uncaged needle roller bearings.

连接法兰、轴套方式

电机通用性

Adapter-bushing connection

Motor generality

高粘度润滑脂

使用高粘度、不易分离的润滑脂, 有效防止润滑脂泄漏。

High viscosity grease

Perfect solution by high viscosity anti-separation grease.

维护方便

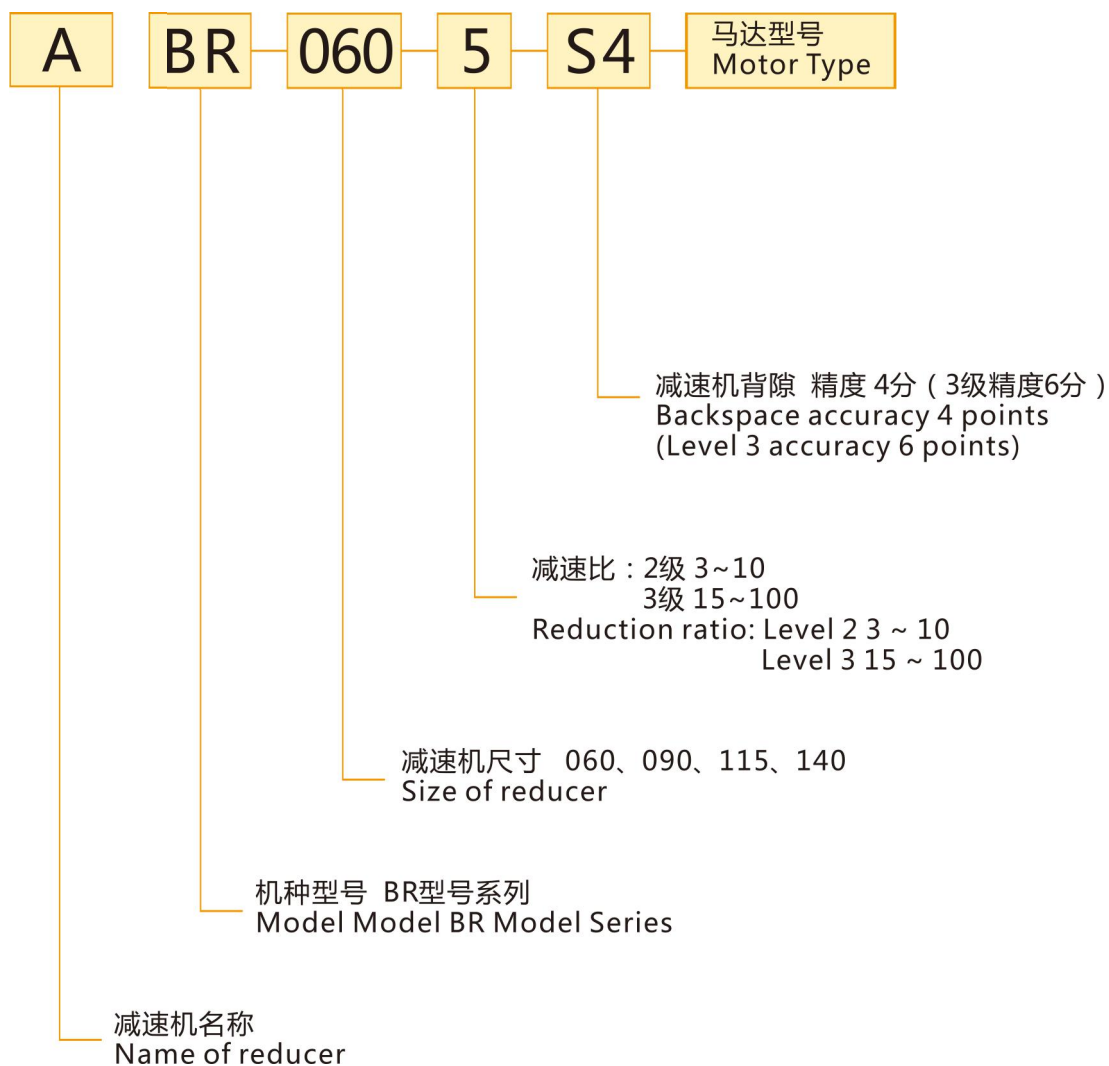
在产品寿命期内无需更换润滑脂, 安装更便捷。

Maintenance-free

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

ABR series

机种、型号代码 Model number



ABR-060

尺寸 Frame size	机种 Model	减速比 Ratio	Φ 1			Φ 2		Φ 3	
			额定扭矩 Nominal output torque [Nm]	最大扭矩 Maximum output torque [Nm]	急停 最大扭矩 Emergency stop torque [Nm]	额定 输入转速 Nominal input speed [rpm]	最大 输入转速 Maximum input speed [rpm]	额定径向力 Permitted radial load [N]	额定轴向力 Permitted axial load [N]
060	2	3	12	24	50	3000	6000	430	310
		4	16	32	65	3000	6000	470	360
		5	22	40	80	3000	6000	510	390
		6	24	45	90	3000	6000	540	430
		7	24	45	90	3000	6000	570	460
		8	24	45	90	3000	6000	600	480
		9	16	32	65	3000	6000	620	510
		10	16	32	65	3000	6000	640	530
		15	16	32	65	3000	6000	740	630
		16	24	45	90	3000	6000	750	650
	3	20	24	45	90	3000	6000	810	720
		25	24	45	90	3000	6000	870	790
		28	24	45	90	3000	6000	910	830
		30	16	32	65	3000	6000	930	860
		35	24	45	90	3000	6000	980	920
		40	24	45	90	3000	6000	1000	970
		45	16	32	65	3000	6000	1100	1000
		50	24	45	90	3000	6000	1100	1100
		60	24	45	90	3000	6000	1200	1100
		70	24	45	90	3000	6000	1200	1100
		80	24	45	90	3000	6000	1200	1100
		90	16	32	65	3000	6000	1200	1100
		100	16	32	65	3000	6000	1200	1100

尺寸 Frame size	机种 Model	减速比 Ratio	Φ 4		Φ 5		Φ 6		
			最大 径向负荷 Maximum radial load [N]	最大 轴向负荷 Maximum axial load [N]	重量 Weight [kg]	惯性力矩 Moment of inertia ($\leq \phi 8$) [kg·cm ²]	惯性力矩 Moment of inertia ($\leq \phi 14$) [kg·cm ²]	惯性力矩 Moment of inertia ($\leq \phi 19$) [kg·cm ²]	使用温度 Use the temperature
060	2	3	1200	1100	1.8	0.31	0.39	0.58	-20℃ ~ 175℃
		4	1200	1100		0.27	0.34	0.53	
		5	1200	1100		0.25	0.32	0.51	
		6	1200	1100		0.24	0.31	0.50	
		7	1200	1100		0.23	0.31	0.50	
		8	1200	1100		0.23	0.31	0.50	
		9	1200	1100		0.23	0.30	0.49	
		10	1200	1100		0.23	0.30	0.49	
	3	15	1200	1100	1.6	0.073	0.118	-	
		16	1200	1100		0.079	0.124	-	
		20	1200	1100		0.071	0.116	-	
		25	1200	1100		0.071	0.115	-	
		28	1200	1100		0.077	0.122	-	
		30	1200	1100		0.062	0.106	-	
		35	1200	1100		0.070	0.115	-	
		40	1200	1100		0.061	0.106	-	
		45	1200	1100		0.070	0.115	-	
		50	1200	1100		0.061	0.106	-	
		60	1200	1100		0.061	0.106	-	
		70	1200	1100		0.061	0.105	-	
		80	1200	1100		0.061	0.105	-	
		90	1200	1100		0.061	0.105	-	
		100	1200	1100		0.061	0.105	-	

- Φ 1 输入转速为额定转速时，使用寿命为 20000 小时的值
- Φ 2 输入转速为额定转速时，使用寿命为 20000 小时的值
(作用于轴中央，轴向负荷为 0 时)
- Φ 3 输入转速为额定转速时，使用寿命为 20000 小时的值
(作用于轴芯，径向负荷为 0 时)
- Φ 4 径向负荷的容许最大值
- Φ 5 轴向负荷的容许最大值
- Φ 6 使用温度 -20℃ ~ 175℃ (使用温度可根据用户要求定制)

- Φ 1 With nominal input speed, service life is 20,000 hours.
- Φ 2 With this load and nominal input speed, service life will be 20,000 hours.
(Applied to the output shaft center, at axial load 0)
- Φ 3 With this load and nominal input speed, service life will be 20,000 hours.
(Applied to the output side bearing, at radial load 0)
- Φ 4 The maximum radial load the reducer can accept.
- Φ 5 The maximum axial load the reducer can accept.
- Φ 6 Use the temperature - 20 °C ~ 175 °C
The use temperature can be customized according to user requirements.

ABR-090

尺寸 Frame size	机种 Model	减速比 Ratio	①			②		③	
			额定扭矩 Nominal output torque [Nm]	最大扭矩 Maximum output torque [Nm]	急停 最大扭矩 Emergency stop torque [Nm]	额定 输入转速 Nominal input speed [rpm]	最大 输入转速 Maximum input speed [rpm]	额定径向力 Permitted radial load [N]	额定轴向力 Permitted axial load [N]
090	2	3	45	65	130	3000	6000	810	930
		4	60	90	170	3000	6000	890	1100
		5	65	90	220	3000	6000	960	1200
		6	65	90	220	3000	6000	1000	1300
		7	65	90	220	3000	6000	1100	1300
		8	65	90	220	3000	6000	1100	1400
		9	45	65	170	3000	6000	1200	1500
	3	10	45	65	170	3000	6000	1200	1600
		15	45	65	170	3000	6000	1400	1900
		16	65	110	220	3000	6000	1400	1900
		20	65	110	220	3000	6000	1500	2100
		25	65	110	220	3000	6000	1600	2200
		28	65	110	220	3000	6000	1700	2200
		30	45	65	170	3000	6000	1700	2200
		35	65	110	220	3000	6000	1800	2200
		40	65	110	220	3000	6000	1900	2200
		45	45	65	170	3000	6000	2000	2200
		50	65	110	220	3000	6000	2100	2200
		60	65	110	220	3000	6000	2200	2200
		70	65	110	220	3000	6000	2300	2200
		80	65	110	220	3000	6000	2400	2200
		90	45	65	170	3000	6000	2400	2200
		100	45	65	170	3000	6000	2400	2200

尺寸 Frame size	机种 Model	减速比 Ratio	④		重量 Weight [kg]	⑤			
			最大 径向负荷 Maximum radial load [N]	最大 轴向负荷 Maximum axial load [N]		惯性力矩 Moment of inertia ($\leq \phi 8$) [kg·cm ²]	惯性力矩 Moment of inertia ($\leq \phi 14$) [kg·cm ²]	惯性力矩 Moment of inertia ($\leq \phi 19$) [kg·cm ²]	惯性力矩 Moment of inertia ($\leq \phi 28$) [kg·cm ²]
090	2	3	2400	2200	5.1	—	2.12	2.45	4.57
		4	2400	2200		—	1.89	2.22	4.35
		5	2400	2200		—	1.80	2.13	4.26
		6	2400	2200		—	1.76	2.09	4.21
		7	2400	2200		—	1.73	2.06	4.18
		8	2400	2200		—	1.71	2.04	4.17
		9	2400	2200		—	1.70	2.03	4.16
	3	10	2400	2200	4.4	—	1.69	2.02	4.15
		15	2400	2200		0.34	0.41	0.60	—
		16	2400	2200		0.38	0.46	0.65	—
		20	2400	2200		0.33	0.40	0.59	—
		25	2400	2200		0.32	0.40	0.59	—
		28	2400	2200		0.37	0.45	0.64	—
		30	2400	2200		0.25	0.33	0.51	—
		35	2400	2200		0.32	0.40	0.59	—
		40	2400	2200		0.25	0.32	0.51	—
		45	2400	2200		0.32	0.39	0.58	—
		50	2400	2200		0.25	0.32	0.51	—
		60	2400	2200		0.25	0.32	0.51	—
		70	2400	2200		0.25	0.32	0.51	—
		80	2400	2200		0.25	0.32	0.51	—
		90	2400	2200		0.25	0.32	0.51	—
		100	2400	2200		0.25	0.32	0.51	—

① 输入转速为额定转速时，使用寿命为 20000 小时的值

② 输入转速为额定转速时，使用寿命为 20000 小时的值
(作用于轴中央，轴向负荷为 0 时)

③ 输入转速为额定转速时，使用寿命为 20000 小时的值
(作用于轴芯，径向负荷为 0 时)

④ 径向负荷的容许最大值

⑤ 轴向负荷的容许最大值

注：使用温度 -20℃ ~ 175℃ (使用温度可根据用户要求定制)

① With nominal input speed, service life is 20,000 hours.

② With this load and nominal input speed, service life will be 20,000 hours.
(Applied to the output shaft center, at axial load 0)

③ With this load and nominal input speed, service life will be 20,000 hours.
(Applied to the output side bearing, at radial load 0)

④ The maximum radial load the reducer can accept.

⑤ The maximum axial load the reducer can accept.

Note: Use the temperature -20℃ ~ 175℃

The use temperature can be customized according to user requirements.

ABR-115

尺寸 Frame size	机种 Model	减速比 Ratio	①			②		③	
			额定扭矩 Nominal output torque [Nm]	最大扭矩 Maximum output torque [Nm]	急停 最大扭矩 Emergency stop torque [Nm]	额定 输入转速 Nominal input speed [rpm]	最大 输入转速 Maximum input speed [rpm]	额定径向力 Permitted radial load [N]	额定轴向力 Permitted axial load [N]
115	2	3	75	150	320	3000	6000	1300	1500
		4	100	200	430	3000	6000	1500	1700
		5	120	240	500	3000	6000	1600	1900
		6	150	300	550	3000	6000	1700	2000
		7	150	300	550	3000	6000	1800	2100
		8	150	300	550	3000	6000	1900	2300
		9	110	200	450	3000	6000	1900	2400
		10	110	200	450	3000	6000	2000	2500
	3	15	110	200	450	3000	6000	2300	3000
		16	130	260	550	3000	6000	2300	3100
		20	150	300	550	3000	6000	2500	3400
		25	150	300	550	3000	6000	2700	3700
		28	150	300	550	3000	6000	2800	3900
		30	110	200	450	3000	6000	2900	3900
		35	150	300	550	3000	6000	3000	3900
		40	150	300	550	3000	6000	3200	3900
		45	110	200	450	3000	6000	3300	3900
		50	150	300	550	3000	6000	3400	3900
		60	150	300	550	3000	6000	3600	3900
		70	150	300	550	3000	6000	3800	3900
		80	150	300	550	3000	6000	4000	3900
		90	110	200	450	3000	6000	4200	3900
		100	110	200	450	3000	6000	4300	3900

尺寸 Frame size	机种 Model	减速比 Ratio	④		重量 Weight [kg]	⑤		惯性力矩 Moment of inertia ($\leq \phi 14$) [kg·cm ²]	惯性力矩 Moment of inertia ($\leq \phi 19$) [kg·cm ²]	惯性力矩 Moment of inertia ($\leq \phi 28$) [kg·cm ²]	惯性力矩 Moment of inertia ($\leq \phi 38$) [kg·cm ²]
			最大 径向负荷 Maximum radial load [N]	最大 轴向负荷 Maximum axial load [N]		最大 径向负荷 Maximum radial load [N]	最大 轴向负荷 Maximum axial load [N]				
115	2	3	4300	3900	10.4	—	6.74	8.34	15.41		
		4	4300	3900		—	5.49	7.08	14.15		
		5	4300	3900		—	5.02	6.61	13.69		
		6	4300	3900		—	4.77	6.36	13.43		
		7	4300	3900		—	4.65	6.24	13.31		
		8	4300	3900		—	4.55	6.14	13.22		
		9	4300	3900		—	4.49	6.08	13.16		
		10	4300	3900		—	4.46	6.05	13.12		
	3	15	4300	3900	10.1	2.25	2.58	4.70	—		
		16	4300	3900		2.46	2.79	4.91	—		
		20	4300	3900		2.20	2.53	4.65	—		
		25	4300	3900		2.18	2.51	4.64	—		
		28	4300	3900		2.40	2.73	4.86	—		
		30	4300	3900		1.87	2.20	4.33	—		
		35	4300	3900		2.16	2.49	4.62	—		
		40	4300	3900		1.86	2.19	4.32	—		
		45	4300	3900		2.15	2.48	4.61	—		
		50	4300	3900		1.86	2.19	4.31	—		
		60	4300	3900		1.85	2.18	4.31	—		
		70	4300	3900		1.85	2.18	4.31	—		
		80	4300	3900		1.85	2.18	4.31	—		
		90	4300	3900		1.85	2.18	4.31	—		
		100	4300	3900		1.85	2.18	4.31	—		

- ① 输入转速为额定转速时，使用寿命为 20000 小时的值
 ② 输入转速为额定转速时，使用寿命为 20000 小时的值
 (作用于轴中央，轴向负荷为 0 时)
 ③ 输入转速为额定转速时，使用寿命为 20000 小时的值
 (作用于轴芯，径向负荷为 0 时)
 ④ 径向负荷的容许最大值
 ⑤ 轴向负荷的容许最大值
 注：使用温度 -20℃ ~ 175℃ (使用温度可根据用户要求定制)

- ① With nominal input speed, service life is 20,000 hours.
 ② With this load and nominal input speed, service life will be 20,000 hours.
 (Applied to the output shaft center, at axial load 0)
 ③ With this load and nominal input speed, service life will be 20,000 hours.
 (Applied to the output side bearing, at radial load 0)
 ④ The maximum radial load the reducer can accept.
 ⑤ The maximum axial load the reducer can accept.
 Note: Use the temperature - 20℃ ~ 175℃
 The use temperature can be customized according to user requirements.

ABR-140

尺寸 Frame size	机种 Model	减速比 Ratio	Φ1			Φ2		Φ3	
			额定扭矩 Nominal output torque [Nm]	最大扭矩 Maximum output torque [Nm]	急停 最大扭矩 Emergency stop torque [Nm]	额定 输入转速 Nominal input speed [rpm]	最大 输入转速 Maximum input speed [rpm]	额定径向力 Permitted radial load [N]	额定轴向力 Permitted axial load [N]
140	2	3	130	260	700	2000	4000	3200	2400
		4	170	340	950	2000	4000	3500	2700
		5	200	400	1100	2000	4000	3800	3000
		6	260	520	1100	2000	4000	4000	3300
		7	300	600	1100	2000	4000	4200	3500
		8	300	600	1100	2000	4000	4400	3700
		9	200	400	750	2000	4000	4600	3900
		10	200	400	750	2000	4000	4700	4100
	3	15	200	400	750	2000	4000	5400	4900
		16	300	600	1100	2000	4000	5500	5000
		20	300	600	1100	2000	4000	6000	5500
		25	300	600	1100	2000	4000	6400	6100
		28	300	600	1100	2000	4000	6700	6400
		30	200	400	750	2000	4000	6800	6600
		35	300	600	1100	2000	4000	7200	7000
		40	300	600	1100	2000	4000	7500	7500
		45	200	400	750	2000	4000	7800	7900
		50	300	600	1100	2000	4000	8100	8200

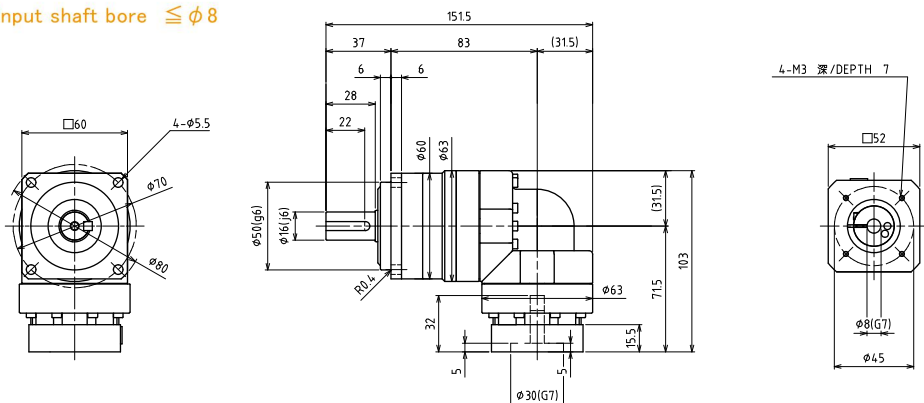
尺寸 Frame size	机种 Model	减速比 Ratio	Φ4		重量 Weight [kg]	Φ5			
			最大 径向负荷 Maximum radial load [N]	最大 轴向负荷 Maximum axial load [N]		惯性力矩 Moment of inertia (≤ φ19) [kg·cm ²]	惯性力矩 Moment of inertia (≤ φ28) [kg·cm ²]	惯性力矩 Moment of inertia (≤ φ38) [kg·cm ²]	惯性力矩 Moment of inertia (≤ φ48) [kg·cm ²]
140	2	3	9100	8200	19.1	—	23.13	27.50	40.73
		4	9100	8200		—	18.57	22.94	36.17
		5	9100	8200		—	16.91	21.28	34.51
		6	9100	8200		—	16.01	20.38	33.61
		7	9100	8200		—	15.58	19.95	33.18
		8	9100	8200		—	15.23	19.61	32.84
		9	9100	8200		—	14.77	19.41	32.37
		10	9100	8200		—	14.66	19.03	32.26
	3	15	9100	8200	19.6	6.40	8.00	15.07	—
		16	9100	8200		7.29	8.88	15.96	—
		20	9100	8200		6.22	7.81	14.89	—
		25	9100	8200		6.15	7.75	14.82	—
		28	9100	8200		7.09	8.68	15.76	—
		30	9100	8200		4.99	6.58	13.66	—
		35	9100	8200		6.09	7.69	14.76	—
		40	9100	8200		4.95	6.54	13.61	—
		45	9100	8200		6.07	7.66	14.74	—
		50	9100	8200		4.93	6.52	13.59	—

- 1 输入转速为额定转速时，使用寿命为 20000 小时的值
 ○2 输入转速为额定转速时，使用寿命为 20000 小时的值
 （作用于轴中央，轴向负荷为 0 时）
 ○3 输入转速为额定转速时，使用寿命为 20000 小时的值
 （作用于轴芯，径向负荷为 0 时）
 ○4 径向负荷的容许最大值
 ○5 轴向负荷的容许最大值
 注：使用温度 -20℃ ~ 175℃（使用温度可根据用户要求定制）

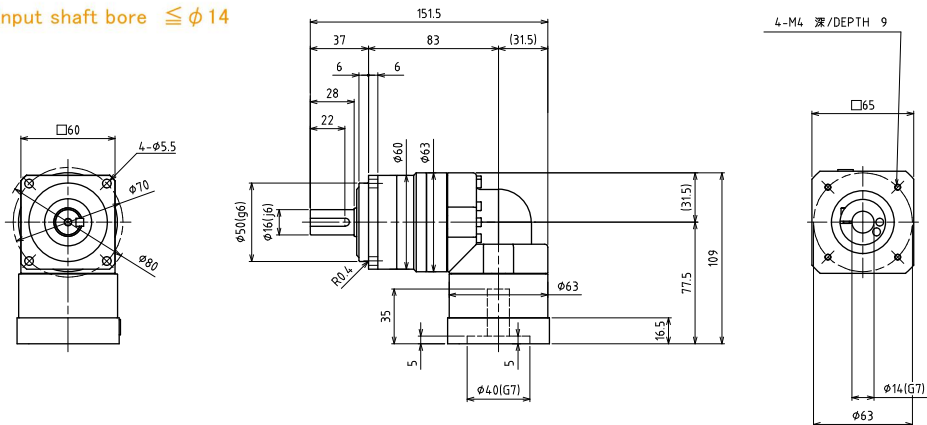
- 1 With nominal input speed, service life is 20,000 hours.
 ○2 With this load and nominal input speed, service life will be 20,000 hours.
 (Applied to the output shaft center, at axial load 0)
 ○3 With this load and nominal input speed, service life will be 20,000 hours.
 (Applied to the output side bearing, at radial load 0)
 ○4 The maximum radial load the reducer can accept.
 ○5 The maximum axial load the reducer can accept.
 Note: Use the temperature - 20℃ ~ 175℃
 The use temperature can be customized according to user requirements.

ABR-060 2级 2stage

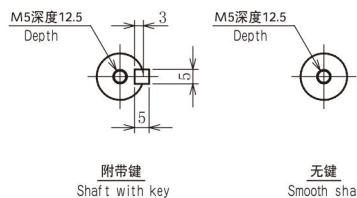
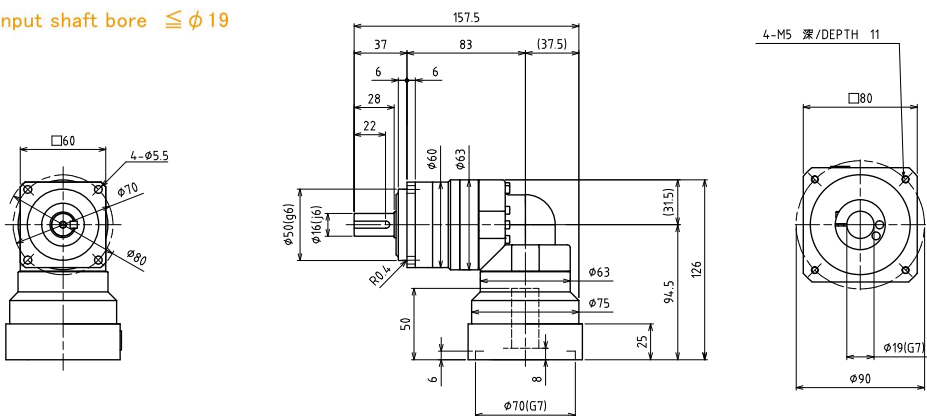
输入轴内径 Input shaft bore $\leq \phi 8$



输入轴内径 Input shaft bore $\leq \phi 14$



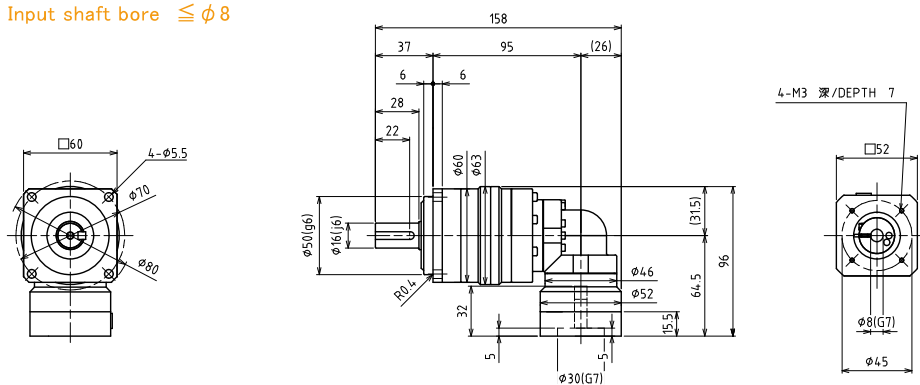
输入轴内径 Input shaft bore $\leq \phi 19$



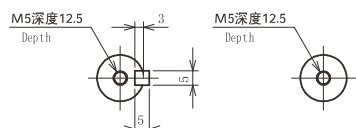
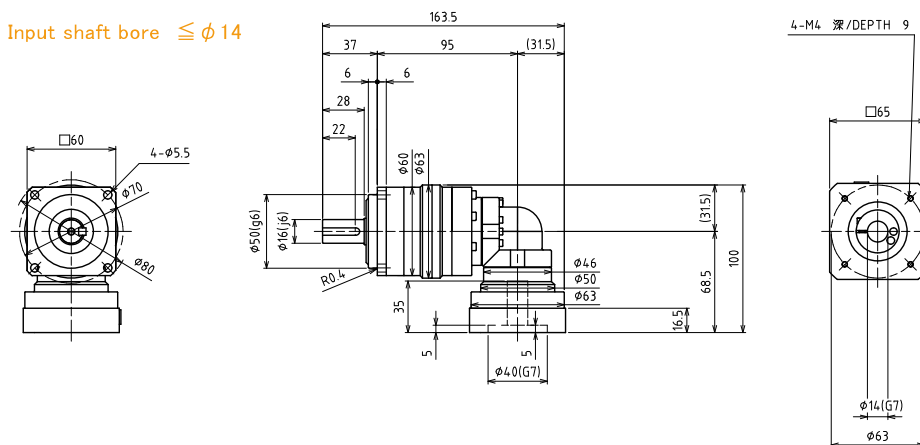
备注1: 机身尺寸随安装电机的不同而有所差异。
 备注2: 电机轴径与输入轴径不同时, 可插入轴套。
 Note1: Body Size Length will vary depending on motor.
 Note2: Bushing will be inserted to adapt to motor shaft.

ABR-060 3级 3stage

输入轴内径 Input shaft bore $\leq \phi 8$



输入轴内径 Input shaft bore $\leq \phi 14$



附带键
Shaft with key

无键
Smooth shaft

备注1: 机身尺寸随安装电机的不同而有所差异。

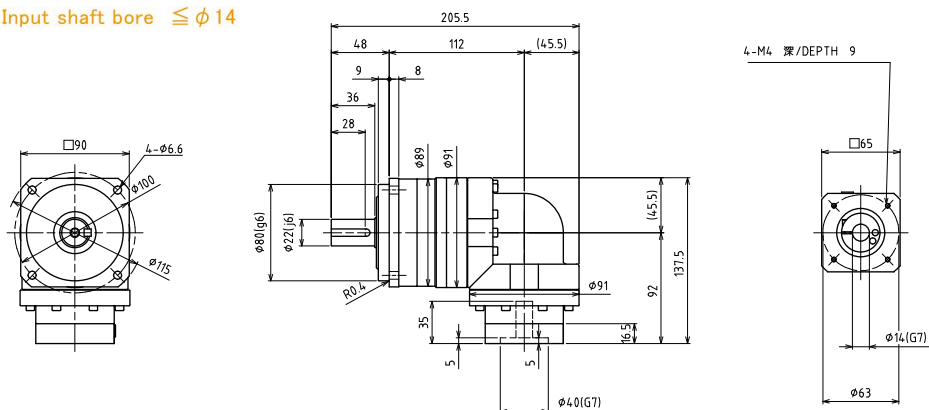
备注2: 电机轴径与输入轴径不同时, 可插入轴套。

Note1: Body Size Length will vary depending on motor.

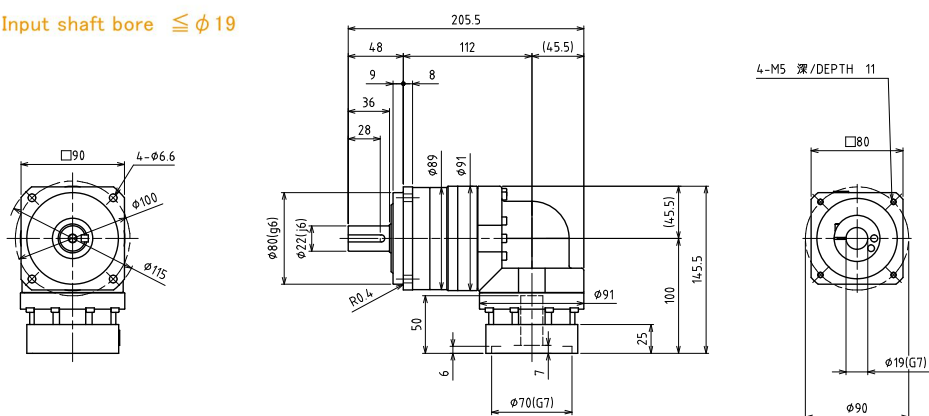
Note2: Bushing will be inserted to adapt to motor shaft.

ABR-090 2級 2stage

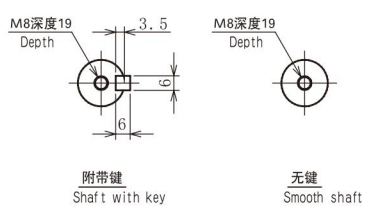
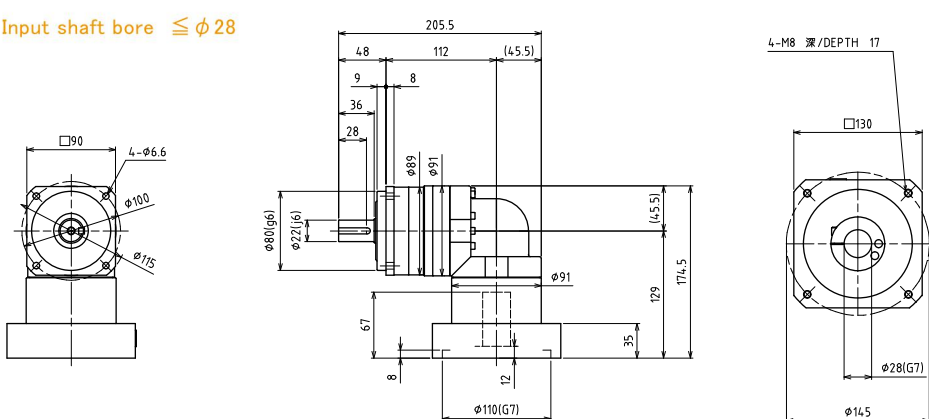
输入轴内径 Input shaft bore $\leq \phi 14$



输入轴内径 Input shaft bore $\leq \phi 19$

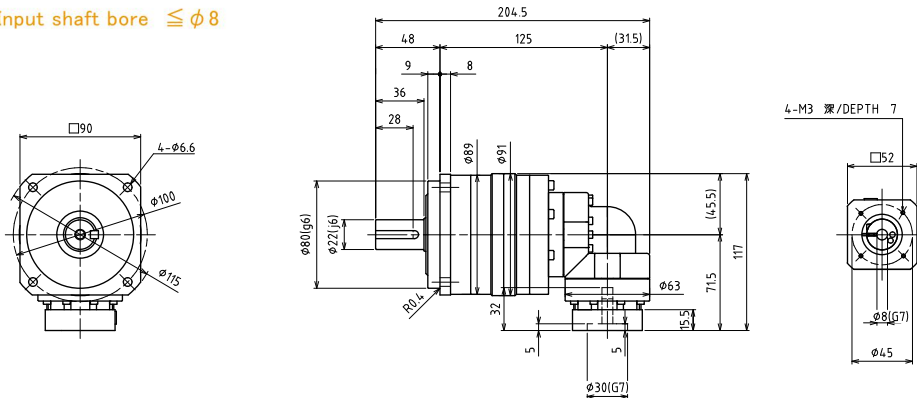


输入轴内径 Input shaft bore $\leq \phi 28$

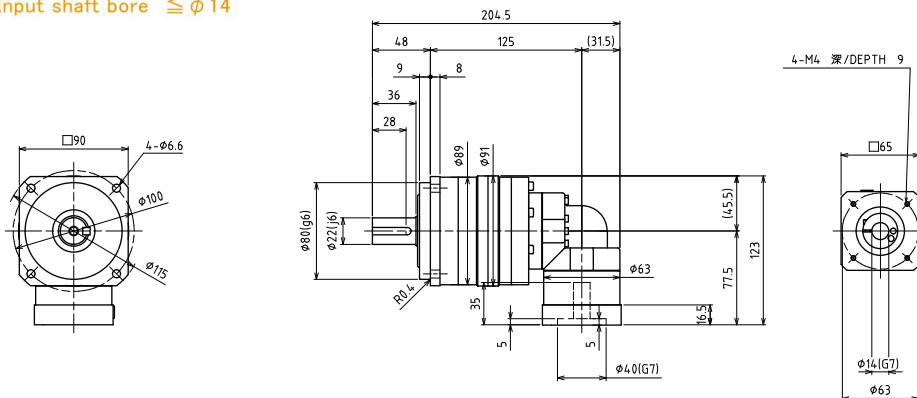


ABR-090 3级 3stage

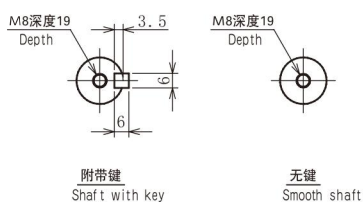
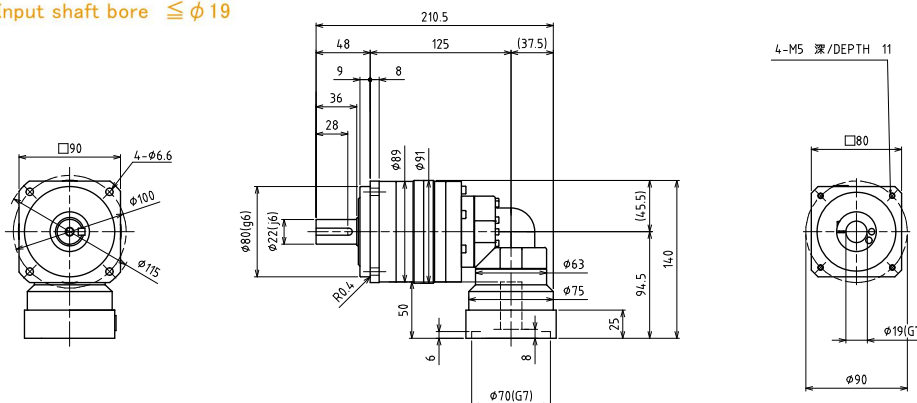
输入轴内径 Input shaft bore $\leq \phi 8$



输入轴内径 Input shaft bore $\leq \phi 14$



输入轴内径 Input shaft bore $\leq \phi 19$



备注1: 机身尺寸随安装电机的不同而有所差异。

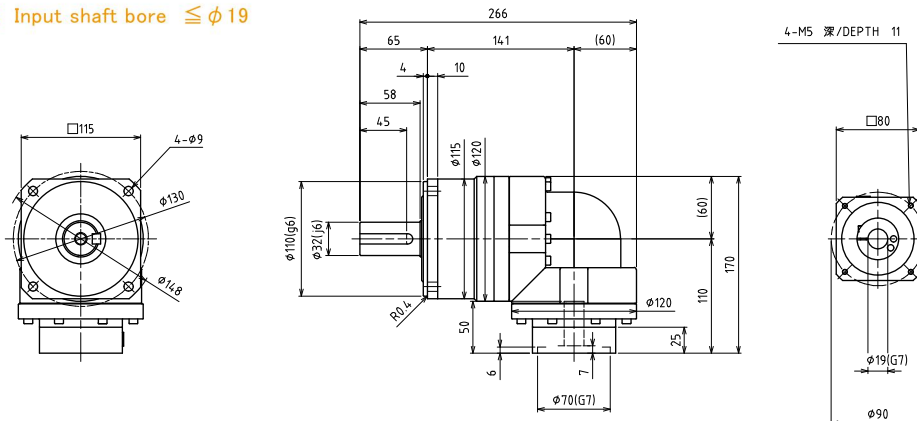
备注2: 电机轴径与输入轴径不同时, 可插入轴套。

Note1: Body Size Length will vary depending on motor.

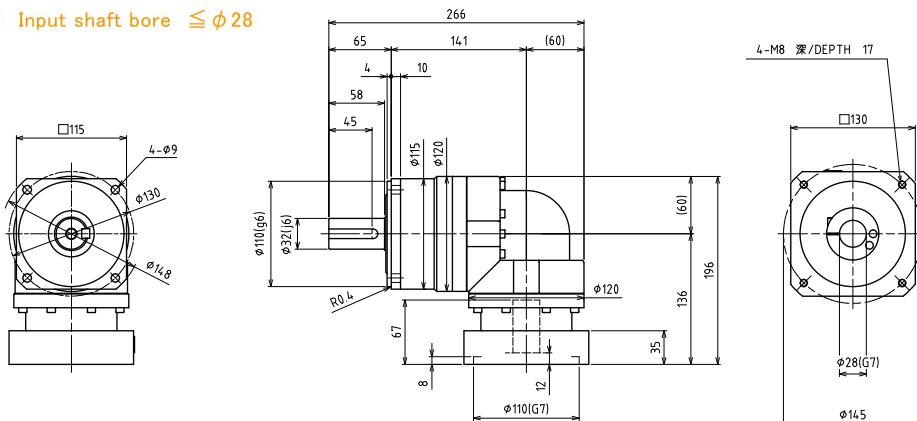
Note2: Bushing will be inserted to adapt to motor shaft.

ABR-115 2級 2stage

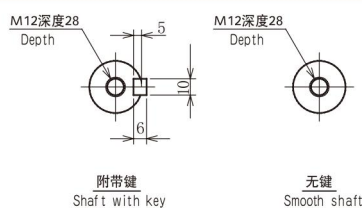
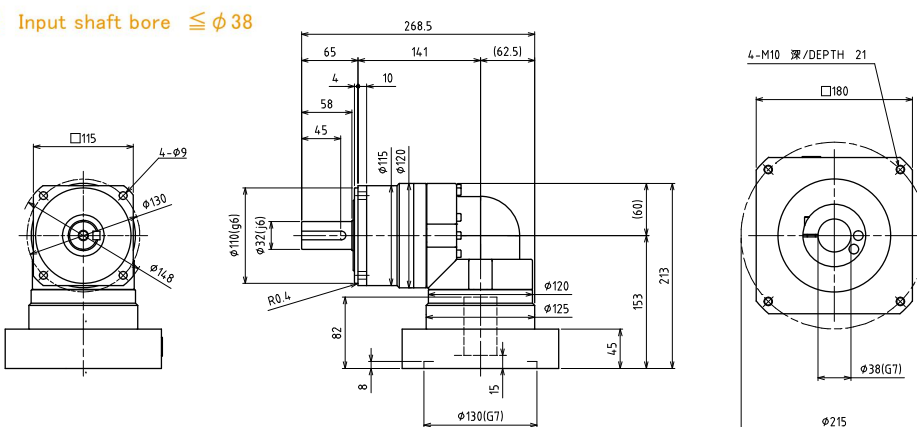
输入轴内径 Input shaft bore $\leq \phi 19$



输入轴内径 Input shaft bore $\leq \phi 28$



输入轴内径 Input shaft bore $\leq \phi 38$



备注1: 机身尺寸随安装电机的不同而有所差异。

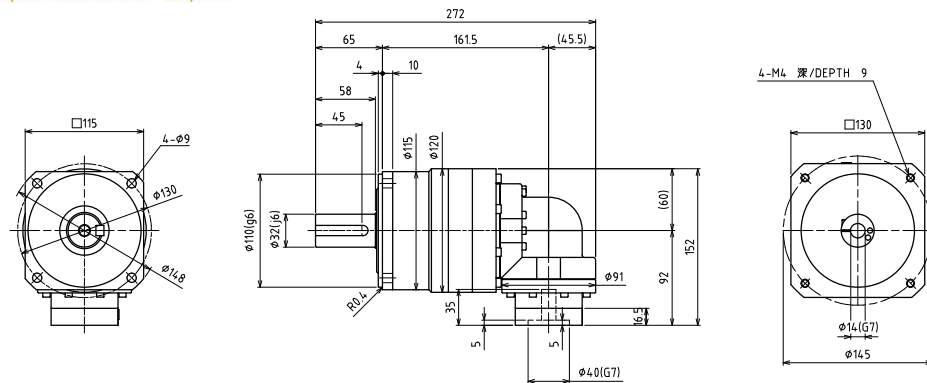
备注2: 电机轴径与输入轴径不同时, 可插入轴套。

Note1: Body Size Length will vary depending on motor.

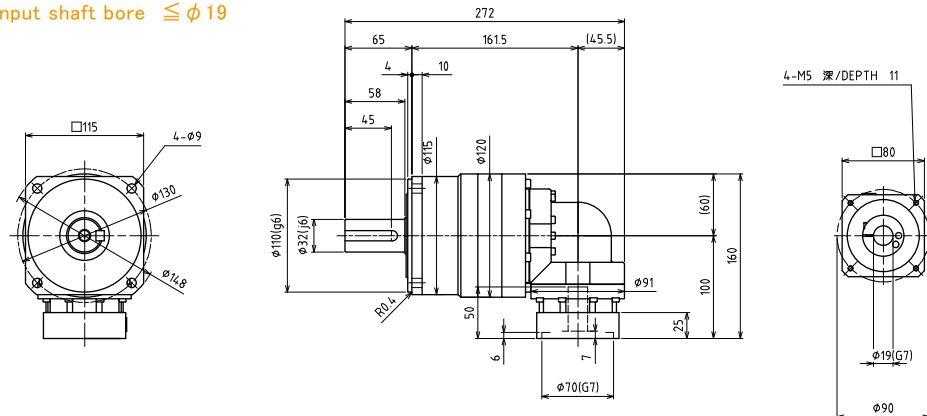
Note2: Bushing will be inserted to adapt to motor shaft.

ABR-115 3级 3stage

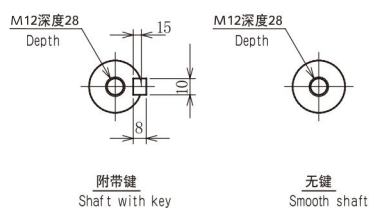
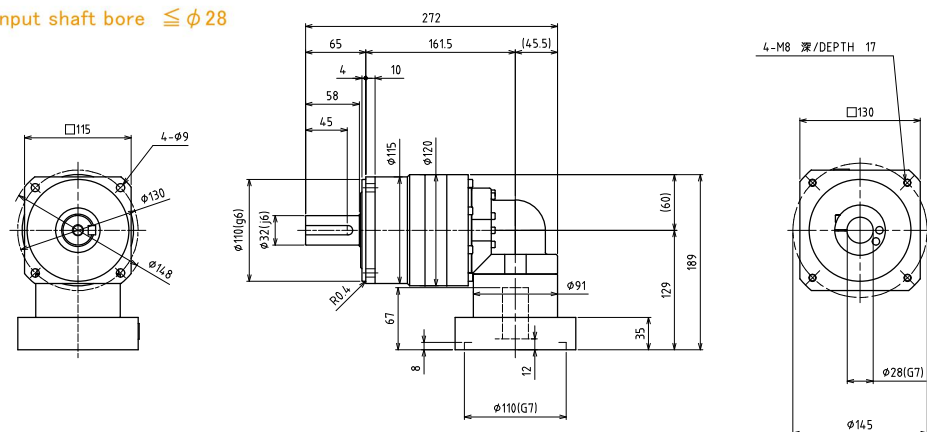
输入轴内径 Input shaft bore $\leq \phi 14$



输入轴内径 Input shaft bore $\leq \phi 19$



输入轴内径 Input shaft bore $\leq \phi 28$



备注1: 机身尺寸随安装电机的不同而有所差异。

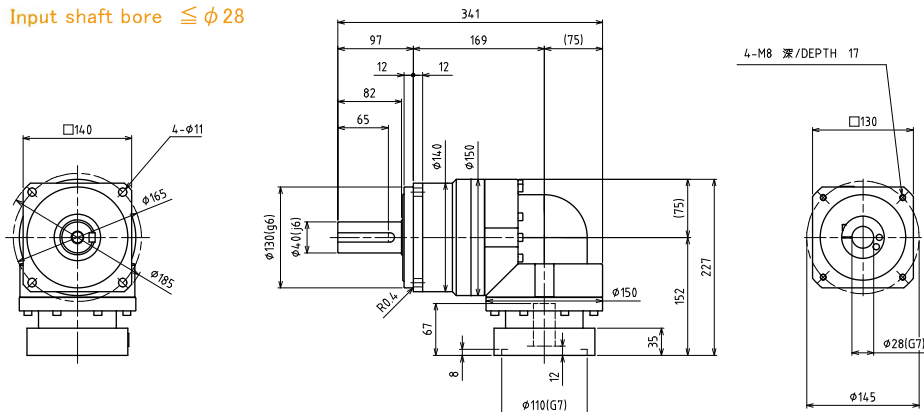
备注2: 电机轴径与输入轴径不同时, 可插入轴套。

Note1: Body Size Length will vary depending on motor.

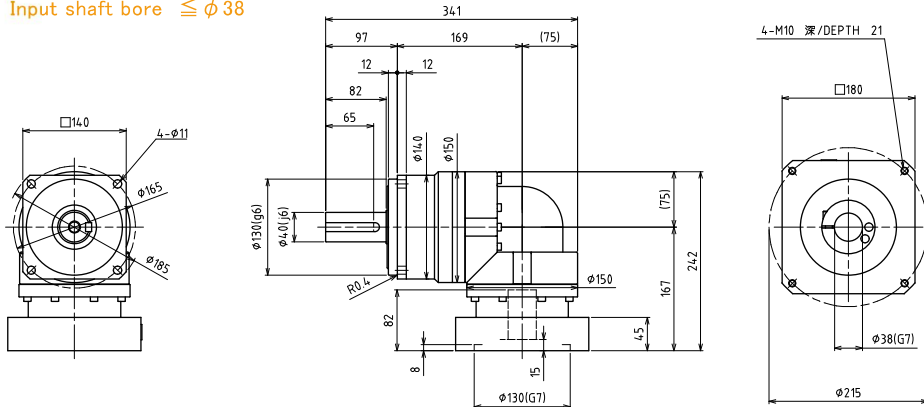
Note2: Bushing will be inserted to adapt to motor shaft.

ABR-140 2级 2stage

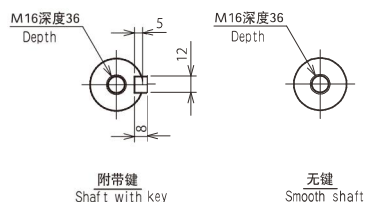
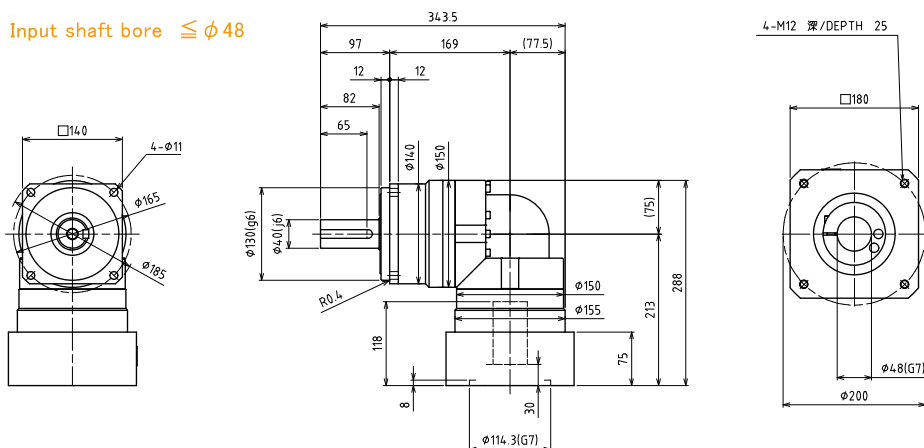
输入轴内径 Input shaft bore $\leq \phi 28$



输入轴内径 Input shaft bore $\leq \phi 38$



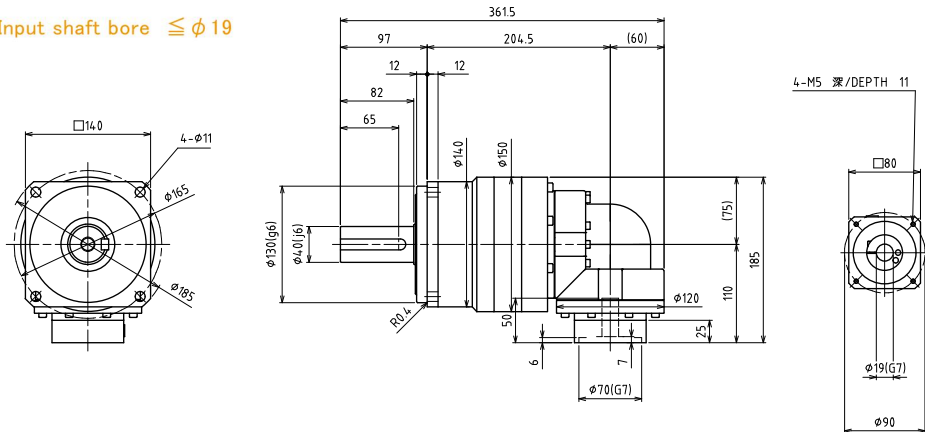
输入轴内径 Input shaft bore $\leq \phi 48$



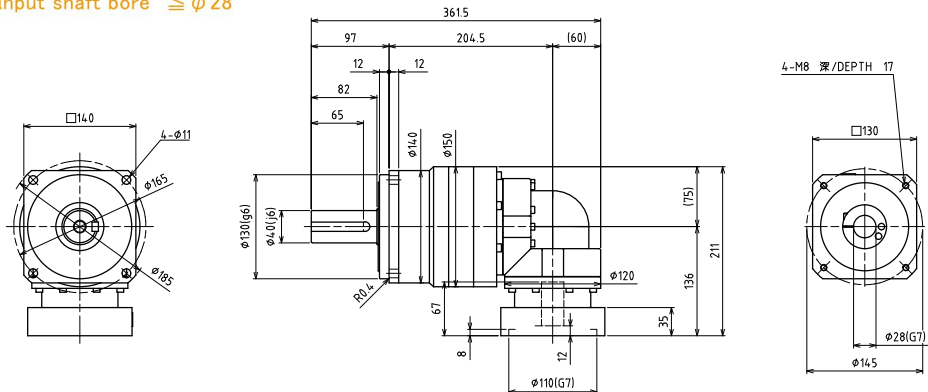
备注1: 机身尺寸随安装电机的不同而有所差异。
 备注2: 电机轴径与输入轴径不同时, 可插入轴套。
 Note1: Body Size Length will vary depending on motor.
 Note2: Bushing will be inserted to adapt to motor shaft.

ABR-140 3级 3stage

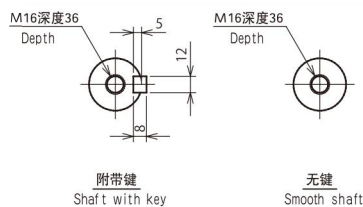
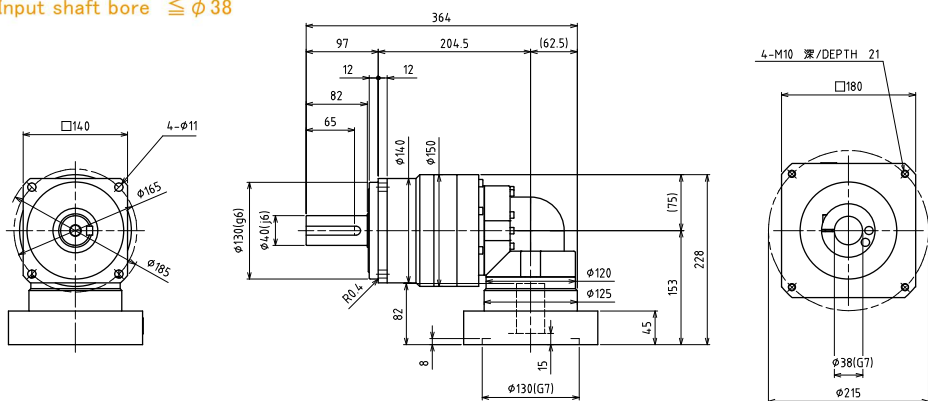
输入轴内径 Input shaft bore $\leq \phi 19$



输入轴内径 Input shaft bore $\leq \phi 28$



输入轴内径 Input shaft bore $\leq \phi 38$



备注1: 机身尺寸随安装电机的不同而有所差异。

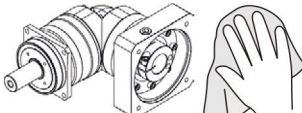
备注2: 电机轴径与输入轴径不同时, 可插入轴套。

Note1: Body Size Length will vary depending on motor.

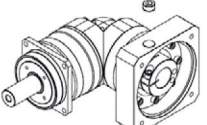
Note2: Bushing will be inserted to adapt to motor shaft.

1 电机安装步骤 Mounting procedure to the motor

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

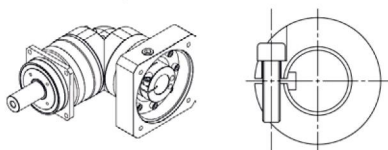


2 取下堵头。
Remove the plug.

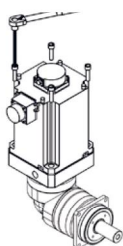


3 旋转输入轴使紧固螺栓的头对准塞孔。此时，请确认紧固螺栓是松动的。
Turn the input shaft until the cap screw is seen. Make sure the cap screw is loosened.

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



4 将减速机垂直放置在平坦的地方，使减速机的电机安装面朝上侧。将电机轴慢慢地插入输入轴，注意避免撞击到输入轴，请确认电机的法兰面紧靠减速机的法兰面。按指定的紧固扭矩拧紧电机安装螺栓。（参考表 1）
Please place reducer vertically on the flat surface so the motor mounting part faces up. Carefully insert the motor shaft into the input shaft. (It should be inserted smoothly) Make sure the motor flange is perfectly fit to the reducer's flange. Tighten the motor installing bolts to the proper torque.(See table1)



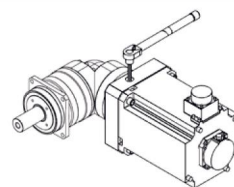
2 减速机的安装

要将减速机安装到设备上时，请先确认安装面平坦且没有毛边等，然后使用扭矩扳手等按照指定的紧固扭矩拧紧螺栓。（参考表 2）

Reducer installation

After confirming the installation surface is flat and clean, tighten the bolt using a torque wrench to the proper torque.(See table2)

5 使用扭矩扳手等按照指定的紧固扭矩拧紧紧固螺栓。（参考表 1）
Tighten the clamping bolt of the input shaft with torque wrench to the proper torque.(See table1)



6 安装堵头，安装完成。
Reinstall the plug. The procedure is done.

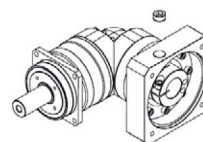


表1 Table 1

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

表2 Table 2

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

◎推荐螺栓：强度12.9以上

◎Recommended bolt: Strength 12.9