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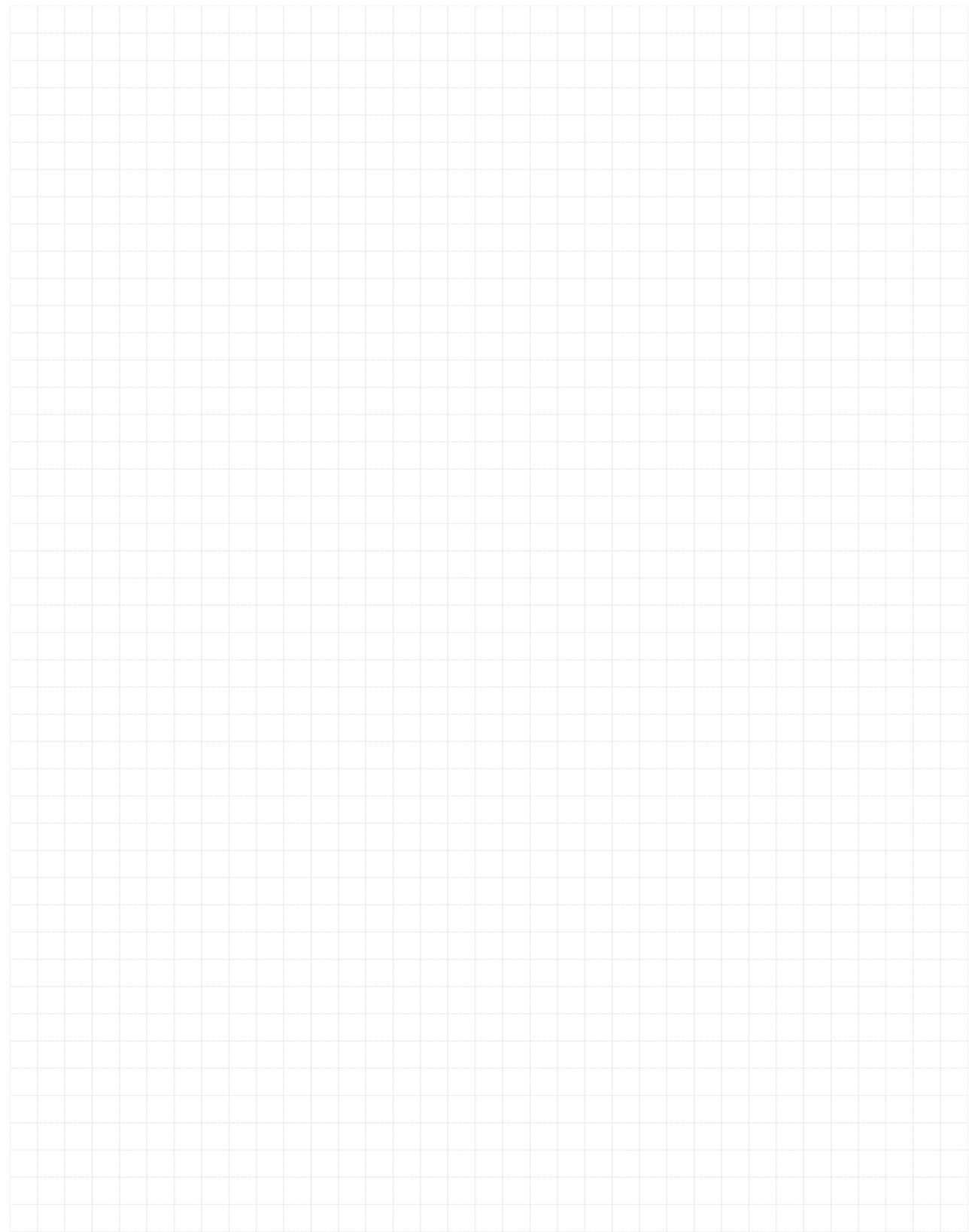
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**SZAW**  
ENGLAND I SINCE 1872





# 目录 Catalog

## ◆ 产品说明 Product Description

1、产品特点 The features of product.....	01
2、安全说明 Safety instructions.....	01
3、技术要求 Technical requirements.....	02
4、安装与拆卸 Installation and disassembly.....	08
5、润滑油更换 Replacement of lubrication oil.....	10

## ◆ 产品型号说明 Product Designations information

1、产品机型表示方法 Product designations.....	12
2、产品类型 Product types.....	13
3、安装方位图 Installation direction diagram.....	14
4、电机接线盒位置 Motor wiring case position.....	14
5、重量表 Weight table.....	14

## ◆ 产品选型 Product Selection

1、选型步骤 Gearmotors guidelines for the selection.....	15
2、从动机负载类别 Driven machine load category.....	16
3、从动机负载系数 Driven machine application.....	17
4、从动机负载连接系数 Load connection coefficient of driven machine.....	17
5、从动机负载位置系数 Load position coefficient of driven machine.....	17
6、每小时起动次数的修正系数 Correction factor dependent upon the number of start-ups per hour.....	18
7、原动机系数 Factor for prime mover.....	18
8、输入输出轴径向力 Input/output shaft radial force.....	19

## ◆ 技术参数及外型尺寸 Technic specifications and dimensions

1、技术参数 Techinc specifications.....	21
3、电机外型尺寸 Motor Dimensions.....	33
2、外型尺寸 Gearmotor dimensions.....	35

## 产品说明

## Product Description

### 1. 产品特点

SR系列斜齿轮减速器由2级、3级减速和组合型传动组成,总共有12种规格的斜齿轮减速器,可在任意位置卧式或法兰安装。

实心输出传动采用高强度的硬齿面斜齿轮,传动扭矩大,抗冲击能力强,结构紧凑,能耗低,噪音低。

输出扭距高达28000N.m;

输出功率可达200KW。

承受过载能力高,两个斜齿轮减速箱和电机组合起来(多功能减速器)可获得特别低的输出速度。

### The features of SR

SR series gear motors is made up of 2-stage,3-stage deceleration and combined driving.There are total 12 kinds of specifications for bevel gear speed reducers.Horizontal type and flange type installation at any position are available.

With solid shaft output, driving adopts high strength hard gear surface bevel gear, with features of large driving torque, strong impact resistance,compact structure,low energy consumption,low noise.

Output torque reaches 28000N.m.

Output power reaches 200kw.

With high overload bearing capacity,if two bevel gear reduction boxes are combined with electric motor(multiple-stage speed reducer), specially low output speed can be achieved.

### 2. 安全说明

SR系列产品按最佳设计惯例,计算和制造,保证在各种场合下安全使用。

根据具体应用的工况系数所计算的等效功率等于或小于所选减速机的额定功率和使用系数。顾客应确保该减速机避免受到驱动设备的任何振动或非正常负载的影响。

产品如果应用在以输送货物为主,偶尔载人的系统,在设计载荷范围内,符合有关安全规定,并且载荷情形已被系统设计者或来自有关权威部门的用户确认的情况下,本公司的质保可以有效。另外,产品严禁用于载人为主的系统中,例如货梯,电梯,自动扶梯,载人升降机,滑雪拖车和滑雪升降机等。

### Safety instructions

SR series gearmotors have best design, which can operate safely in all kind of situations.

According to the operation condition of the concrete application coefficient calculated by the equivalent power is equal to or less than the selected gearmotor rated power and use of the coefficient. The customer shall ensure that the deceleration machine to avoid by any vibration or abnormal load to a drive device.

If products are mainly applied to convey goods and manned system sometimes, they conform to relevant safety regulations within range of design load, furthermore, load conditions have been confirmed by system designer or user from related authoritative departments, quality warranty will be valid. Our products are prohibited to be applied to system that focuses on manned system including cargo elevator, passenger elevator, escalator, passenger lifter, skiing trailer and skiing lifter.

## 产品说明

## Product Description

### 3. 技术要求

灰铸铁件的箱体采用带筋的高刚性灰铸铁，其力学性能不低于GB5675中的HT250、HT200标准，灰铸铁应进行自效或人工处理。铝合金压铸箱体采用高强度铝合金材料，其力学性能不低于ZL108标准。

### 3.1 轴承孔中心距极限偏差应符合下表规定:

中心距a(mm) Central distance	> 50~80	> 80~120	> 120~180	> 180~250	> 250~315	> 315~400	> 400~500	> 500~630	> 630~800
极限偏差 $\pm fa$ (um) Limit deviation	15	17.5	20	23	26	28.5	31.5	35	40

Limit deviation of bearing bore central distance must conform to the stipulations inside the table below:

### 3.2 轴承孔中心线平行度在轴承跨距上测量应符合下表规定:

轴承跨距 (mm) Bearing span	≤125	> 125~280	> 280~560	> 560~1000
平行度公差(um) parallelism tolerance	20	25	30	40

When measured in bearing span,bearing bore central line parallelism must conform to the stipulations inside the table below:

### 3.3 减变速器主要部件材料及热处理应符合下表规定

Material and heat treat treatment of speed variator main parts must conform to the stipulation inside the table below

材料标准号 Material grade	热处理 Heat treatment	材料标准号 Material stander.NO	齿面 Gear surface	芯部 Core part
17Cr2Ni2Mo	渗碳淬火回火 Carburizing and quenching,tempering	JT6395-1992	HRC(60±2)	HRC30~42
20CrMnMOH				
20CrMnTiH				
GCr15	淬火 Quenching	GB/3203-1982		HBS255~286
42CrMO	调质 Hardening and tempering			
40Cr	调质 Hardening and tempering	GB/3077-1999		HBS241~286
45#	调质 Hardening and tempering			

## 产品说明

### 3.4 齿轮精度

分度圆直径d≤125时为6JL;  
分度圆直径d>125时为6KM;  
应符合GB/10095-1988规定。

### 3.5 齿轮减速器装配时最少侧隙应符合下表规定:

中心距a(mm) Central distance	≤80	> 80~125	> 125~180	> 180~250	> 250~315	> 315~400	> 400~500	> 500~630	> 630~710
um	120	140	160	185	210	230	250	280	320

## Product Description

### Gear accuracy

When reference circle diameter d≤125,the numerical value is 6JL;  
When reference circle diameter d > 125,the numerical value is 6JL;  
GB/10095-1988

When installing gear reducer,minimun lateralpace must conform to the stipulations inside the table below:

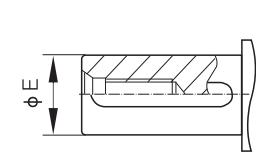
### 3.6 圆锥滚子轴承(接触角 $\beta < 10\sim16^\circ$ )轴向间隙应符合下表规定:

Axial clearance of conical roller bearing (contace angle  $\beta < 10\sim16^\circ$ )must conform to the stipulations inside the table below:

轴承内径d(mm) Bearing internal diameter	轴向间隙(um) Interaxial interval	允许轴承跨距 Allowable bearingspan
≤30	40~70	14d
> 30 ~50	50~100	12d
> 50~80	80~150	11d
> 80 ~120	120~200	10d
> 120 ~180	200~300	9d
> 180 ~260	250~350	6.5d

### 3.7 轴伸公差应符合下表规定:

Shaft extension tolerance must conform to the stipulations inside the table below:

轴径 Shaft diameter	公差 Tolerance	轴伸 Shaft extension
$\phi E \leq 50$	k6	
$50 < \phi E \leq 250$	m6	
$\phi E > 250$	n6	

## 产品说明

## Product Description

### 3.8 孔径公差应符合下表规定

Hole diameter tolerance must conform to the stipulations inside the table below:

孔径 Hole diameter	公差 Tolerance	输出孔 Output hole	输出孔 Output hole
		输入孔 Input hole	输入孔 Input hole
φ C	H7		

### 3.9 外止口公差应符合下表规定:

Male half coupling tolerance must conform to the stipulations inside the table below:

外止口 Male half coupling	公差 Tolerance	输出法兰 Output flange	(SC、Wj)箱体端面外止口 Male half coupling of case end surface	( WB、X ) 立式机座 Vertical-type baseframe
φ g1	h7			

### 3.10 内止口公差应符合下表规定:

Female half coupling tolerance must conform to the stipulations inside the table below:

孔径 Hole diameter	公差 Tolerance	电机联接法兰 Contact flange of electric motor	电机联接法兰 Contact flange of electric motor	(Wj、Wd) 输出法兰 Output flange
φ k4	H8			

## 产品说明

## Product Description

### 3.11 平键和键槽应符合下表规定:

parallel key and key slot must conform to the stipulations inside the table below:

直径 Diameter	宽度 width	高度 Height	轴键槽深度 Depth of keyway in shaft	轮毂键槽深度 Depth of keyway in hub
d	b	h	t1	d+t2
>8 ~10	3	3	1.8	d+1.4
>10~12	4	4	2.5	d+1.8
>12 ~17	5	5	3	d+2.3
>17 ~22	6	6	3.3	d+2.8
>22 ~30	8	7	4	d+3.3
>30 ~38	10	8	5	d+3.3
>38~44	12	8	5	d+3.3
>44 ~50	14	9	5.5	d+3.8
>50~58	16	10	6	d+4.3
>58 ~65	18	11	7	d+4.4
>65 ~75	20	12	7.5	d+4.9
>75~85	22	14	9	d+5.4
>85 ~95	25	14	9	d+5.4
>95 ~110	28	16	10	d+6.4
>110~130	32	18	11	d+7.4
>130 ~150	36	20	12	d+8.4
>150~170	40	22	13	d+9.4
>170~200	45	25	15	d+10.4
>200 ~230	50	28	17	d+11.4
>230~260	56	32	20	d+12.4
>260~290	63	32	20	d+12.4
>290 ~330	70	36	22	d+14.4
>330~380	80	40	25	d+15.4
>380 ~440	90	45	28	d+17.4
>440 ~500	100	50	31	d+19.4

## 产品说明

## Product Description

3.12 实心轴轴端螺孔应符合下表规定：

Shaft end screw hole of solid shaft must conform to the stipulations inside the table below:

轴端单螺孔(C型带螺纹的中心孔) Shaft end single screw hole (C-type central hole with screw thread)						
E	M	L	L1	L2	D1	D2
≤10	M3	10	1.8	2.6	3.2	5.8
>10~13	M4	10	2.1	3.2	4.3	7.4
>13~16	M5	10	2.4	4	5.3	8.8
>16~21	M6	12	2.8	5	6.4	10.5
>21~24	M8	12	3.3	6	8.4	13.2
>24~30	M10	15	3.8	7.5	10.5	16.3
>30~38	M12	20	4.4	9.5	13	19.8
>38~50	M16	25	5.2	12	17	25.3
>50~85	M20	30	6.4	15	21	31.3
>85~130	M24	35	8	18	25	38
>130~225	M30	45	11	18	31	48
>225~320	M36	55	15	22	37	60
>320~500	M42	60	19	26	43	71
>500~710	M48	65	23	30	49	83

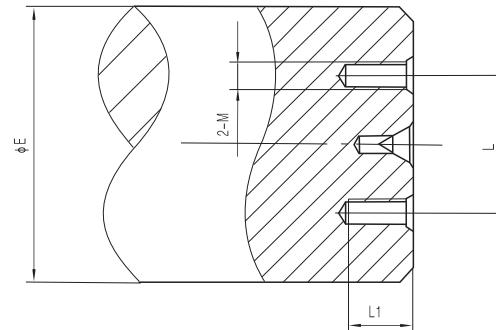
\*注:轴端双螺纹孔时,订货时需特殊说明。

\*Note:If two holes in shaft-end are necessary,please make a specification for it when placing an order.

## 产品说明

## Product Description

轴端双螺孔  
Shaft end double-screw hole



E	M	L1	L
>40~45	M8	1.5	20
			22
>45~50	M10	18	26
			36
>50~60	M12	20	50
			60
>60~70	M16	28	70
			80
>70~80	M20	38	85
			90
>80~100	M24	45	110
			120
>100~110			130
			160
>110~120			160
			180
>120~130			190
			220
>130~140			230
			240
>140~150			250
>150~165			
>165~180			
>180~210			
>210~230			
>230~280			
>280~290			
>290~310			
>310~330			
>330~340			
>340			

\*注:轴端双螺纹孔时,订货时需特殊说明。

\*Note:If two holes in shaft-end are necessary,please make a specification for it when placing an order.

**4. 安装与拆卸**

在户外安装时应避免阳光直射，以免应力集中影响减速机的正常运行，可采用太阳棚或减速机罩遮盖。

整机安装时，应准备刚性好的基座或牢固支架，以保证在最大载荷时也不至于改变减速机安装后的各部件位置。

卧式安装时，应校准安装面与输出轴之间的中心高。

立式安装时，应校准轴端到输出法兰端面的距离。

联轴器连接时，应校准两安装轴同轴度，并保证浮动量不超过联轴器的允许范围。

长轴连接时，应考虑轴的足够刚度。

扭力臂安装时，空心轴与工作轴应配合良好，工作轴的浮动或设备的震动应小于弹性衬套允许范围。

在减速机实心轴上安装连接件时（如链轮，皮带轮，齿轮），如需加热时，应保护好轴上的油封，要用防热屏避免减少热辐射。

在安装连接件时，请勿重击，应用螺丝从输出轴端螺孔压入。

在装皮带轮，链轮，齿轮，搅拌式时还需考虑径向力。

**Installation and disassembly**

When installing the product outside, it should avoid direct sunlight in order to keep gearmotor normal operation.

It should prepare the rigid chassis and support before installing the whole product, which ensure the right position of parts of product at the maximum load.

It should calibrate the height of center between the gearbox mounting face and output shaft in a horizontal position.

The distant between the shaft end and output flange end should be adjusted in a vertical position.

When the coupling connects, the coaxiality of two mounting shafts should be calibrated and ensure the floatingdisplacement within the allowedrange of coupling.

Considering enough rigidity of shaft in time of long shaft connection.

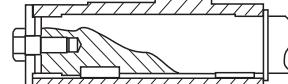
Hollow shaft should match well with working shaft when installing torque arm. Working shaft floating or equipment vibration should be less than allowable range of flexible shaft housing.

When installing connecting pieces (chain pulley, belt pulley and gear etc.) on solid shaft of gear box, it should protect the oil seal on shaft and adopt heat proof shield to avoid the thermal radiation if they need heating. When installing connecting pieces, it should use screw to press them from input shaft end screw hole. In time of installing belt pulley, chain pulley and gear, it should consider radial force during the course of stirring.

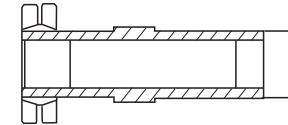
在安装空心轴，带胀紧盘空心轴和带渐开线花键空心轴与客户芯轴时，应将空心轴清理干净并涂防锈油，并保证空心轴与芯轴的同轴度。带胀紧盘的空心轴内孔和芯轴接触区域内不得有任何润滑脂。

When installing the hollow shaft, it should clean the hollow shaft and apply coat of antirust oil before install all kind of hollow shaft. The coaxiality of hollow shaft and mandrel should be calibrated. There are not any lubricating grease inside the contact area of internal hole of hollow shaft with expansion disk and mandrel.

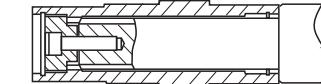
空心轴安装  
Installation of hollow shaft



带胀紧盘空心轴安装  
Installation of hollow shaft with expansion disk

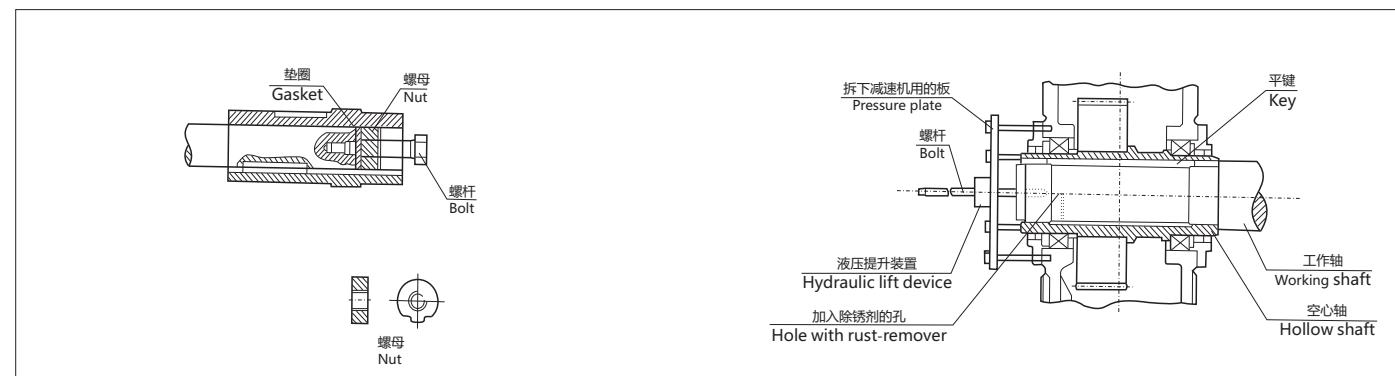
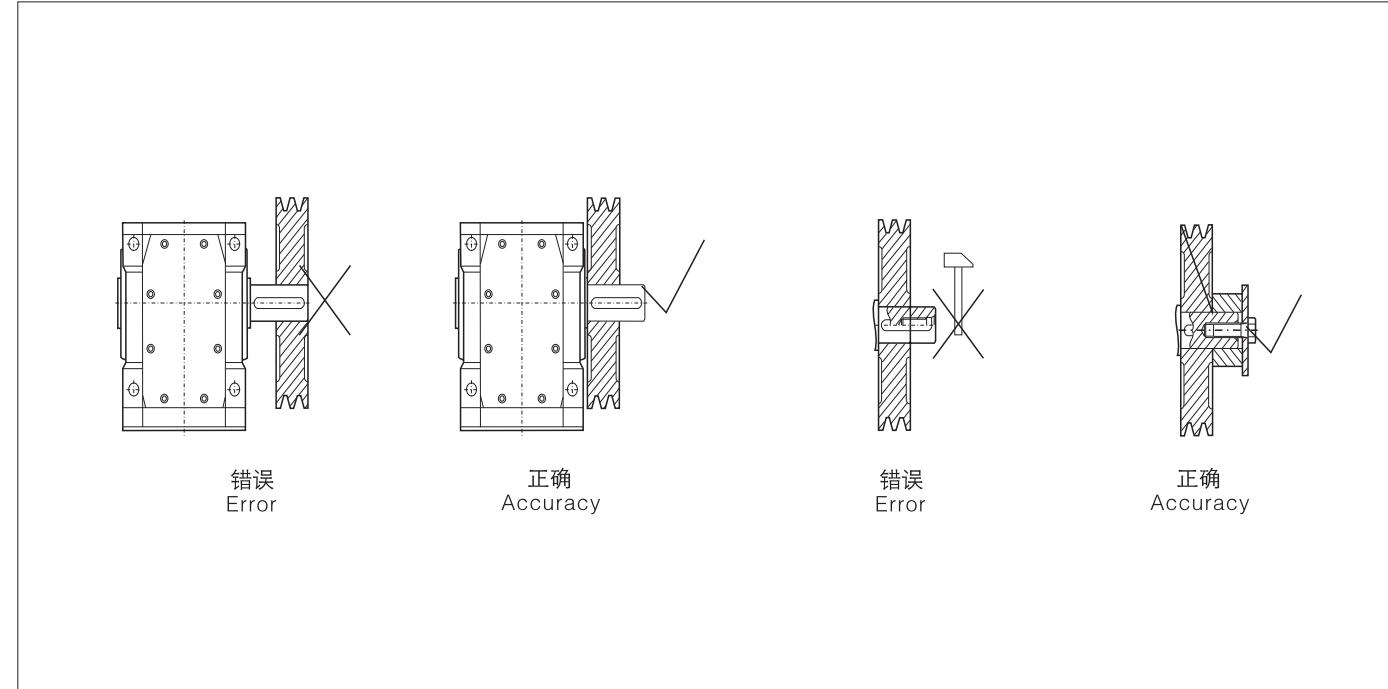


带花键空心轴安装  
Installation of hollow shaft with spline



空心轴的拆卸应根据现场实际可使用的设备，可以用端板上的螺杆（参考下图），中心螺杆或者液压提升装置将减速机从机器轴上脱下来，空心轴的每个端面都配备了2个螺丝孔可以拧入固定端板的螺栓。

It can pull gear box down from machine shaft with screw bolt (refer to diagram biew), central screw bolt or hydraulic lifting on endplate when removing the hollow shaft. Each end surface of hollow shaft is furnished with two screw holes, into which bolt for fixing endplate can be screwed.



## 产品说明

## Product Description

### 5. 润滑油的更换

如无特殊情况，最好使用同一牌号，同一厂家的润滑油。如需更换，请将减速机箱体里面的沉积物，金属颗粒和残留的润滑油清洗干净。

### 5.1 SR系列油量表(单位L)

机型号Type 油量(L) Oil (L)	安装方位 Installation direction	W1	W2	W3	W4	W5	W6	B1	B2	B3	B4	B5	B6
SR37	0.5(1.2)	0.5(1.2)	1	1	1.5	1	1	1.5	0.5(1)	1	1.1	1.2	1.1
SR47	1(1.7)	1.7	2	2	1.5	1.5	2	1(1.5)	1.5	2.3	1.7	1.7	
SR57	1.2(2)	2.1(3)	2.5	3	1.7	1.7	3	1.2(2)	2.2(3)	3	1.85	1.8	
SR67	1.3(2.5)	2.5(3.7)	3	3.5	2	2	3.5	1.5(2.5)	3(3.5)	3.5	2	2	
SR77	1.5(3.2)	4(4.5)	4	4.5	3.5	2.5	4.5	1.5(2.5)	4(4.5)	4.2	3	3	
SR87	2.5(6.3)	7(8.5)	7.5	8	6.5	6.5	8	2.5(6)	7(8)	7.5	6.5	6.5	
SR97	5(10)	12(15)	12	13.5	11.5	11.5	14	5.5(10.5)	12(14)	12	12	12	
SR107	6.5(13.5)	17	17	19.5	16	13.5	19.5	6.5(15)	16	17	13	17	
SR137	11(27)	29	30	31.5	25	25	32.5	9.5(25)	27	31	25	25	
SR147	16(45)	47	49	53	41	39.5	52	16.5(45)	47	50	40	41	
SR167	29(75)	85	78	90	70	66	88	26(70)	82	80	65	70	
SR187	43(100)	170	150	170	140	120	150	37(120)	150	135	120	135	

注:三级传动时表中油量选择括号内参数

Note:Choose parameters inside bracket fr oil capacity in the table in time of 3-stage drive.

### 5.2 润滑油牌号选择

### Selection of lubricating oil brand

环境温度°C Ambient temperature	ISO粘度与NLGI相应 Adhesiveness of ISO and NLGI unitive	GB牌号 L-CKC	Mobil	Shell	Esso
-25~+80	VG220	N220	Mobil Glygoyle 30	Shell Tivela 01 WB	
0~+40	VG220	N220	Mobil gear 630	Shell Omala 01220	SPARTAN EP 220
-15~+25	VG150 VG100	N150	Mobil gear 629	Shell Omala 01 100	SPARTAN EP150
-30~+10	VG68-VG32	N68	Mobil D.T.E 15M	Shell Omala 01 T 32	ESSOATF D-21611
-20	VG22 VG15	N22	Mobil D.T.E 11M	Shell Omala 01 T 15	UNIVIS J 13
-45~+60	VG680	N680	Mobil Glygoyle HE 680		

## 产品说明

## Product Description

### 5.3 润滑油种类选择

减速器使用工况 Operating condition of speed reducer	润滑油种类 Category of lubricating oil
冶金轧钢、井下采掘、高温有冲击、含水等 Metallurgy steel rolling,underground excavation, high temperature;impact, water-bearing etc	L-CKD重载荷工业齿轮油(GB5903-1995) L-CKD heavy load industrial gear oil (GB5903-1995)
其余 Other	L-CKC中载荷工业齿轮油(GB5903-1996) L-CKC moderate load industrial gear oil (GB5903-1996)
注:若选用合成齿轮油则更有良好的抗老化性能,可有效地提高减速器的机械效率 Note:Selection of synthetic gear oil can ensure better ageing resistance and effectively enhance mechanical efficiency of speed reducer.	

### 5.4 润滑油粘度选择

条件 Conditions	润滑油粘度等级40°C温度下的ISO-VG粘度mm2/s(cst) ISO-VG viscosity mm2/s under temperature of 40°C lubricating oil viscosity
高速级齿轮圆周速度V < 2.5m/s,或环境温度在35~50°C之间 High speed level gear circular velocity V < 2.5m/s, ambient temperature:35~50°C	VG320或VG460 VG320orVG460
高速级齿轮圆周速度V > 2.5m/s,或环境温度在35°C以下,或采用循环油润滑 High speed level gear circular velocity V > 2.5m/s, or ambient temperature is lower than 35°C,or adopt lubrication of circulating oil	VG220

### 5.5 浸油润滑油的工作温度

润滑油的种类 Category of lubricating oil	工作温度°C Working temperature
中载荷工业齿轮油(L-CKC) Moderate load industrial gear oil(L-CKC)	-8°C至+90°C(瞬间可达100°C) -8°C至+90°C(reach100°C within instantaneous time)
重载荷工业齿轮油(L-CKD) Heavy load industrial gear oil(L-CKD)	-5°C至+100°C(瞬间可达110°C) -5°C至+100°C(reach110°C within instantaneous time)

### 5.6 强制润滑油允许的极限温度

40°C温度下的ISO-VG粘度mm2/s(cst) ISO-VG viscosity mm2/s under temperature of 40°C								VG220	VG320	VG460
矿物油 Mineral oil								10-80	15-90	20-95
合成油 Synthetic oil								0-90	5-100	10-105

注:当油温低于表中所列数值时,必须提供浸油润滑方式,或对润滑加热。  
Note:When oil temperature is lower than the numerical value listed in the table,flooding system lubrication mode must be offered,or heat lubrication.

## 产品型号说明

## Product Designations Information

### 1. 产品机型表示方法

### Product designations

SR - L - 77 - Y0.75/4P - 92.62 - B3 - 90°

电机接线盒位置  
The position of junction box in  
the motor  
详见第14页/(see page 14)

安装方式/Mounting position  
详见第14页/See page 14

表示传动比/Ratio

输入方式/Input mode  
Y表示配直连电机(需注明电机功率和极数)/To connect motor directly  
(need to mark power and pole number of electric motor)  
F表示配电机联接法兰,用户自配电机(需注明电机机座号)  
F denotes electric motor is furnished (need to mark  
power and pole number of electric motor)  
S表示配轴输入/Shaft input

表示机型号/Model number

表示安装形式/Installation way  
W表示卧式底脚安装/Horizontal installation  
L表示立式法兰安装/Vertical installation with flange

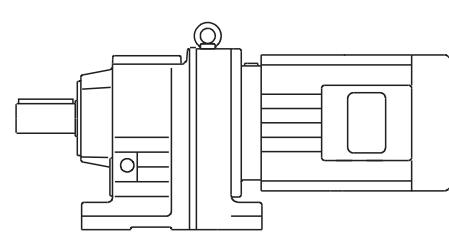
表示机型号/Model number

## 产品型号说明

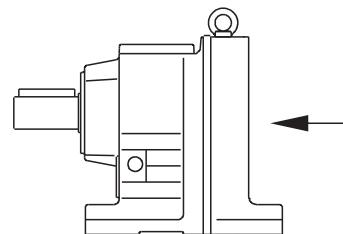
## Product Designations Information

### 2. 产品类型

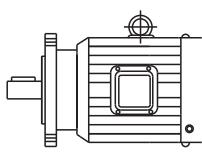
### Product types



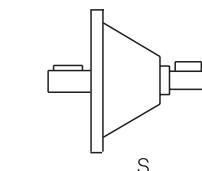
SRW...Y



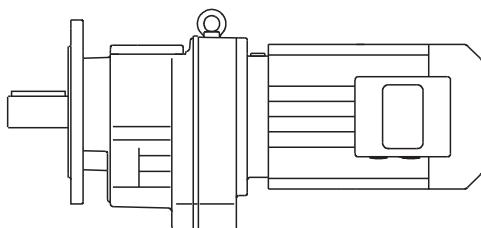
SRW



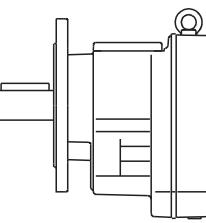
Y



S



SRL...Y



SRL

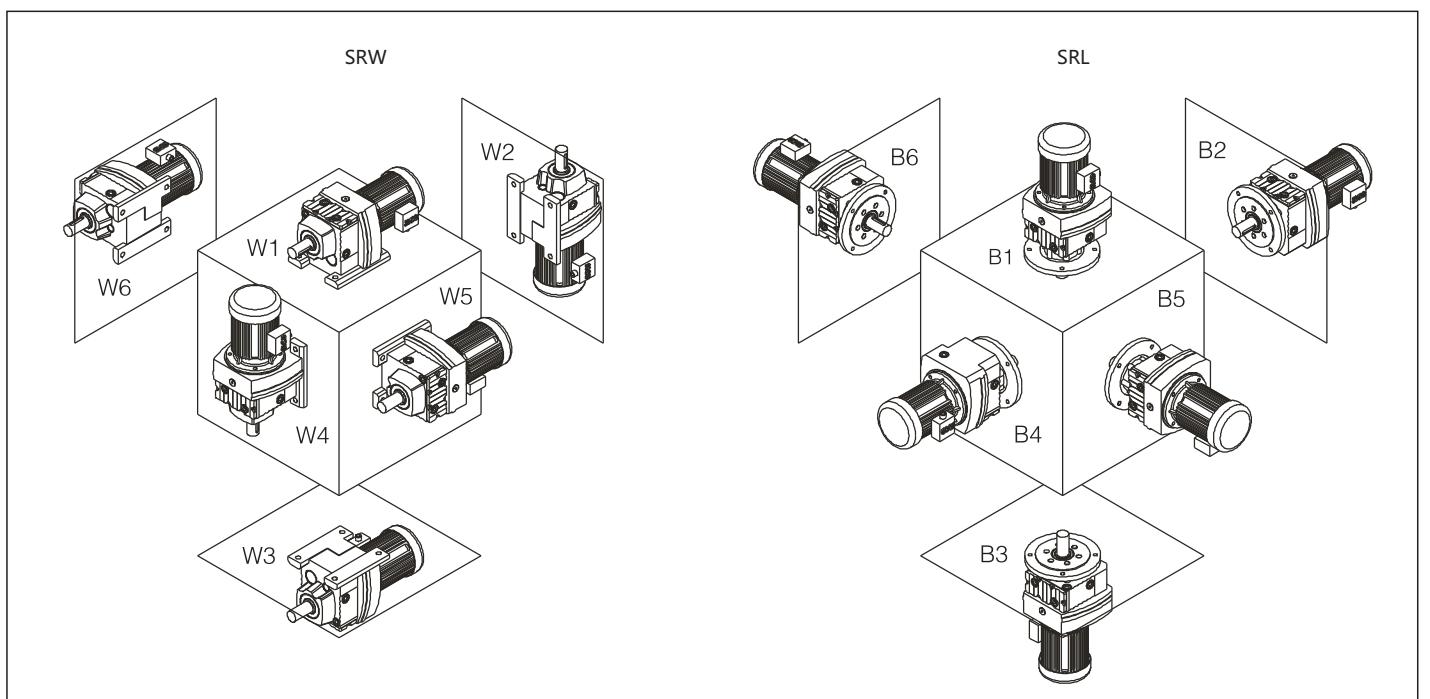


F

## 产品型号说明

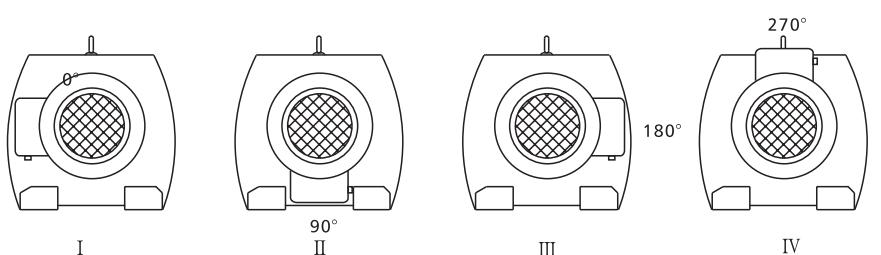
### 3. SR系列安装方位图

SR series installation direction diagram



### 4. SR系列电机接线盒位置

SR series motor wiring case position



### 5. SR系列重量表

SR series weight table

机型号/Type	SR37	SR47	SR57	SR67	SR77	SR87	SR97	SR107	SR137	SR147	SR167	SR187
重量kg/weight kg	10	15	21	27	35	65	120	165	255	370	700	1500

注:表中重量为不加油时重量,带输入轴、输入法兰另加10% ;

带电机根据所配规格另加。

Note:Weight in the table means the weight when oil is not added .

When input shaft is furnished,10%weight should be added.If there is a motor,please add weight according to motor type.

Product Designations Information

## 产品选型

### 1. 选型步骤与举例

#### 1.1 已知条件 :

##### 1.1.1 载荷类别

一台中等冲击的被驱动设备。

扭矩  $T_2 = 850\text{N.m}$ ; 功率  $P_1 = 5.5\text{kW}$  4极电机;

输入转数  $n_1 = 1450\text{rpm}$ ; 输出转数  $n_2 = 51\text{rpm}$ ;

每天工作16小时; 每小时起动6次; 每次工作8分钟;

环境温度28°C; 海拔高150米。

##### 1.1.2 安装方式

减速机与电机直连, 减速机立式法兰水平安装;

##### 1.1.3 输出方式

实心轴与法兰在箱体左边输出(从电机往减速机箱体方向看);

##### 1.1.4 连接方式

通过公称直径D=200mm的皮带轮与被驱动机械连接。

### 2. 选型及计算:

#### 2.1 计算传动比 $i = n_1/n_2 = 1450/51 = 28.43$

#### 2.1.1 校核工况系数 $F_g = \delta_1 \times f_1 \times f_2 < F_B$ (具体参数, 请查看第17、18页)

根据被驱动设备需要

扭矩  $T_2 = 850\text{N.m}$ ; 传动比  $i = 28.43$ ;

工况系数  $F_g = 1.25$

SR型号的精确传动比  $i_s = 27.62$  (与理想传动比  $C_i$ 接近);

配置功率  $P_1 = 5.5\text{kW}$  时, 输出扭矩  $T_2 = 940\text{N.m}$ , 使用系数

$F_B = 1.5$ 。(请查阅传动能力表SR87, 第25页)

$F_g (1.25) < F_B (1.5)$  满足要求。

#### 2.1.2 校核减速机输入和输出轴上允许径向力 $FR$

$$FR = \frac{2000 \times T_2 \times \delta_3 \times \delta_4}{d} > Fr_2$$

$\delta_3=1.3, \delta_4=1$ 。

(这里假设皮带轮安装在减速机输出轴轴身中间>0.5 )

详见请查阅第17页。

$$FR = \frac{2000 \times T_2 \times 1.3 \times 1}{d} > 11050\text{N}$$

SR87在27.62传动比时  $Fr_2 = 12580\text{N}$ 。

(查SR输入和输出轴径向力表, 详见第19页)

$FR(11050\text{N}) < Fr_2(12580\text{N})$

满足要求。

#### 2.1.3 确定润滑油供油方式和润滑油选择

减速机采用浸油润滑, 选择润滑油GB-N220。

(详见第10页)

### 3. 确定型号

SRLA87-Y5.5/4P-27.62-1ZA-B1-0°

## Product Selection

### 1. Gearmotors guidelines for the selection

#### 1.1 The known conditions:

##### 1.1.1 Load category

A set of driven equipment with moderate impact.

Torque = 850N.m; Power = 5.5kw

4-pole motor;

$n_1 = 1450\text{rpm}$ ;  $n_2 = 51\text{rpm}$

Operating 16 hours per day; Starting 6 times per hour;

Working 8 minutes per minute

Ambient temperature 28°C; Altitude of 150 meters.

##### 1.1.2 Mounting position

Gear box connect directly the motor and the gearmotor is mounted horizontal installation with vertical-toe flange.

##### 1.1.3 Output mode

The solid shaft and flange on the left of the case (viewing in the direction from motor to gear box)

##### 1.1.4 Connection mode

Through the belt pulley (D=200mm) and driven mechanism.

### 2. Selection and calculation

#### 2.1 Ratio = $n_1/n_2 = 1450/51 = 28.43$

#### 2.1.1 Check working condition coefficient $F_g = \delta_1 \times f_1 \times f_2 < F_B$ (See page 17、18)

In accordance with requirement of driven equipment

Torque( $T_2$ ) = 850N.m; Ratio( $i$ ) = 28.43;

Working condition coefficient( $F_g$ ) = 1.25.

The accurate ratio of SR model is 27.62, which is close with the ideal ratio( $C_i$ ). When the power( $P_1$ ) is 5.5kw, the output torque( $T_2$ ) is 940N.m and the service factor( $F_B$ ) is 1.5. (See table SR87, page 25)

$F_g (1.25) < F_B (1.5)$

It is to meet the requirements.

#### 2.1.2 Checking the radial force on the output shaft of gearmotor( $FR$ )

$$FR = \frac{2000 \times T_2 \times \delta_3 \times \delta_4}{d} > Fr_2$$

$\delta_3=1.3, \delta_4=1$ .

(Assuming the belt pulley install on the output shaft of gearmotor.) see page 17.

$$FR = \frac{2000 \times T_2 \times 1.3 \times 1}{d} > 11050\text{N}$$

When the ratio is 27.62 in SR87, the radial force( $Fr_2$ ) is 12580N.

$FR(11050\text{N}) < Fr_2(12580\text{N})$

It is to meet the requirements.

(see page 19)

#### 2.1.3 Define oil supply mode and selection of lubrication oil

When gearmotor adopts flooding system lubrication, gearmotor should choose lubricating oil(GB-N220).

(see page 10)

### 3. Determine type and size

SRLA87-Y5.5/4P-27.62-1ZA-B1-0°



## 产品选型

## Product Selection

### 6. 每小时起动次数的修正系数- $\delta_1$

Correction factor dependent upon the number of start-ups per hor- $\delta_1$			
启动次数/小时 Start-ups/hour	每天使用小时h/24h Servicehours per day h/24h		
	$\leq 8h$	9~16h	>17~24h
< 10	1.00	1.00	1.00
< 100	1.10	1.10	1.15
< 500	1.10	1.15	1.25

### 7. 原动机系数-f2

Factor for prime mover-f2		
电机、液压马达、汽轮机 Electric motors, hydraulic motors, turbines		1
4-6缸活塞发动机,周期变化1:100至1:200 Piston engines 4-6cylinders,cyclic variation 1:100 to 1:200		1.25
1-3缸活塞发动机,周期变化1:100 Piston engines 1-3cylinders,cyclic variation up to 1:100		1.50

## 产品选型

### 8. SR系列输入输出轴径向力

## Product Selection

### SR series input/output shaft radial force

SR37		SR47		SR57		SR67		SR77		SR87	
is	4P(1450rpm)										
	Fr1(N)	Fr2(N)									
5.00	890	646	5.02	990	1930	5.11	1190	2750	5.11	1390	3570
6.16	880	705	5.98	1040	2040	6.10	1195	2910	6.10	1350	3780
6.88	910	850	6.87	1070	2100	6.92	1210	3000	6.92	1350	3900
7.71	1300	1460	7.56	1080	2250	7.70	1175	3115	7.70	1270	3980
8.77	1310	1480	8.74	1230	2280	8.90	1465	3220	8.60	1700	4160
10.80	1310	1530	10.43	1240	2450	10.63	1470	3865	10.50	1700	5280
12.06	1310	1545	11.97	1240	2560	12.07	1470	4040	11.91	1700	5520
13.52	1310	1595	13.18	1240	2740	13.42	1470	4195	13.25	1700	5650
15.25	1300	1700	15.34	1240	2740	15.00	1470	4260	14.81	1700	5780
17.33	1330	1770	17.08	1240	2840	16.87	1475	4450	16.65	1710	6060
18.53	1340	2030	19.13	1220	2880	19.11	1460	4555	18.86	1700	6230
21.35	1370	2180	20.31	1240	3000	20.95	1470	4710	20.68	1700	6420
24.93	1630	2630	24.62	1250	3240	24.92	1025	4830	24.60	800	6420
27.22	585	2800	27.69	1270	3440	27.69	1215	4930	27.33	1160	6420
33.55	1380	3500	33.01	510	3980	33.01	950	5200	32.59	1390	6420
37.44	1420	3850	37.91	1620	3990	37.91	950	5205	37.41	1390	6420
41.99	1480	4040	41.73	1640	4190	41.73	950	5305	41.19	1400	6420
50.09	1500	4200	48.57	1350	4370	48.57	950	5395	47.94	1400	6420
61.73	340	4200	54.08	1370	4540	54.08	950	5480	53.38	1420	6420
68.90	585	4200	60.59	1370	4600	60.59	950	5510	59.80	1450	6420
77.26	600	4200	67.60	1430	4600	67.60	950	5510	66.72	1450	6420
87.14	600	4200	74.42	1430	4600	74.42	950	5510	73.45	1450	6420
99.00	600	4200	86.61	1430	4600	86.61	950	5510	85.49	1450	6420
105.9	600	4200	96.43	1430	4600	96.43	950	5510	95.18	1450	6420
122.0	600	4200	108.0	1430	4600	108.0	950	5510	106.6	1450	6420
142.5	600	4200	114.7	1430	4600	114.7	950	5510	113.2	1450	6420
			139.0	1430	4600	139.0	950	5510	137.2	1450	6420
			160.3	1430	4600	160.3	950	5510	158.2	1450	6420
			173.1	1430	4600	173.1	950	5510	170.8	1450	6420
											192.6
											1560
											8430
											191.8
											1130
											14280

注:表中is表示减速器精确传动比,  
Fr1表示减速器输入轴额定径向载荷,  
Fr2表示减速器输出轴额定径向载荷。

Note:is in the table denotes precise drive ratio of  
electric motor.  
Fr1 denotes its input rated radial load of input shaft,  
Fr2 denotes its rated radial load of output shaft





## 技术参数及外形尺寸图表

## Technic specifications and dimensions

P1		参数代码		SR67/传动能力选型参数表/SR67 series of transmission power parameter form	
0.18kW 4P	T2(N.m)	5.11	6.10	6.92	7.70
	FB	8.60	10.50	11.91	13.25
0.25kW 4P	T2(N.m)				
	FB				
0.37kW 4P	T2(N.m)				
	FB				
0.75kW 4P	T2(N.m)				
	FB				
1.1kW 4P	T2(N.m)				
	FB				
1.5kW 4P	T2(N.m)				
	FB				
2.2kW 4P	T2(N.m)	73	82	100	113
	FB	120	146	166	184
3kW 4P	T2(N.m)	96	107	120	135
	FB	148	170	202	230
4kW 4P	T2(N.m)	116	135	154	170
	FB	250	286	321	364
5.5kW 4P	T2(N.m)	180	216	246	273
	FB	320	372	422	470
7.5kW 4P	T2(N.m)	245	294	334	371
	FB	507	565	623	681
0.18kW 6P	T2(N.m)				
	FB				
0.37kW 6P	T2(N.m)				
	FB				
0.75kW 6P	T2(N.m)				
	FB				
1.5kW 6P	T2(N.m)	73	87	99	110
	FB	123	150	171	190
3kW 6P	T2(N.m)	146	175	198	221
	FB	246	301	341	380
n1=1450rpm n2=1500rpm	T2(N.m)	284	328	370	412
n1=980rpm n2=1000rpm	T2(N.m)	188	157	139	125
4kW 4P	T2(N.m)	245	294	334	371
	FB	507	565	623	681
7.5kW 4P	T2(N.m)	1.15	1.03	1.01	1.00
	FB	0.91	0.85	0.99	0.91
0.18kW 6P	T2(N.m)				
	FB				
0.37kW 6P	T2(N.m)				
	FB				
0.75kW 6P	T2(N.m)				
	FB				
1.5kW 6P	T2(N.m)				
	FB				
3kW 6P	T2(N.m)				
	FB				
5.5kW 6P	T2(N.m)				
	FB				
7.5kW 6P	T2(N.m)				
	FB				
11kW 4P	T2(N.m)				
	FB				
11kW 6P	T2(N.m)				
	FB				
11kW 8P	T2(N.m)				
	FB				

注：1、表中P1表示配置电机额定功率,n1表示减速器输入转速,n2表示减速器输出转速,T2表示减速器输出扭矩,FB表示减速器使用系数;2、表中黑色方框内参数需配电机联接法兰;  
3、SR67型减速器许用扭矩T2为550N.m。  
Note: 1. P1 in the table denotes rated power of motor is furnished,n1 denotes input revolution of speed reducer, n2denotes its output revolution,n2 denotes its output torque, and FBdenotes its performance coefficient;2.Parameters inside black frame of the table need to be furnished with motor connecting flange;3. SR67 type speed reducer allowable torque Tn2 is 550N.m

## 技术参数及外形尺寸图表

## Technic specifications and dimensions

P1		参数代码		SR77/传动能力选型参数表/SR77 series of transmission power parameter form	
0.25kW 4P	T2(N.m)	4.99	5.96	6.77	7.52
	FB	8.41	10.56	11.98	13.33
0.37kW 4P	T2(N.m)				
	FB				
0.75kW 4P	T2(N.m)				
	FB				
1.5kW 4P	T2(N.m)				
	FB				
2.2kW 4P	T2(N.m)				
	FB				
3kW 4P	T2(N.m)				
	FB				
4kW 4P	T2(N.m)				
	FB				
5.5kW 4P	T2(N.m)				
	FB				
7.5kW 4P	T2(N.m)				
	FB				
11kW 4P	T2(N.m)				
	FB				
11kW 6P	T2(N.m)				
	FB				
11kW 8P	T2(N.m)				
	FB				
0.18kW 6P	T2(N.m)				
	FB				
0.37kW 6P	T2(N.m)				
	FB				
0.75kW 6P	T2(N.m)				
	FB				
1.5kW 6P	T2(N.m)				
	FB				
3kW 6P	T2(N.m)				
	FB				
5.5kW 6P	T2(N.m)				
	FB				
7.5kW 6P	T2(N.m)				
	FB				
11kW 6P	T2(N.m)				
	FB				
11kW 8P	T2(N.m)				
	FB				

注：1、表中P1表示配置电机额定功率,n1表示减速器输入转速,n2表示减速器输出转速,T2表示减速器输出扭矩,FB表示减速器使用系数;2、表中黑色方框内参数需配电机联接法兰;  
3、SR77型减速器许用扭矩T2为800N.m。  
Note: 1. P1 in the table denotes rated power of motor is furnished,n1 denotes input revolution of speed reducer, n2denotes its output revolution,n2 denotes its output torque, and FBdenotes its performance coefficient;2.Parameters inside black frame of the table need to be furnished with motor connecting flange;3. SR77 type speed reducer allowable torque Tn2 is 800N.m

注：1、表中P1表示配置电机额定功率,n1表示减速器输入转速,n2表示减速器输出转速,T2表示减速器输出扭矩,FB表示减速器使用系数;2、表中黑色方框内参数需配电机联接法兰;

Note: 1. P1 in the table denotes rated power of motor is furnished,n1 denotes input revolution of speed reducer, n2denotes its output revolution,n2 denotes its output torque, and FBdenotes its performance coefficient;2.Parameters inside black frame of the table need to be furnished with motor connecting flange;3. SR77 type speed reducer allowable torque Tn2 is 800N.m







## 技术参数及外形尺寸图表

SR187传动能力选型参数表(SR187series of transmission power parameter form)									
P1	参数代码	P1	额定功率P1	额定转速n1(rpm)	额定扭矩T2(N·m)	额定转矩FB(N·m)	额定输出转速n2(rpm)	额定输出扭矩FB(N·m)	传动比i精确传动比/Exact ratio
7.5kW 4P	T2(N·m)	8.91	10.72	1240	13.73	15.27	17.01	18.81	20.93
	FB								
11kW 4P	T2(N·m)								
	FB								
15kW 4P	T2(N·m)								
	FB								
18.5kW 4P	T2(N·m)								
	FB								
22kW 4P	T2(N·m)								
	FB								
30kW 4P	T2(N·m)								
	FB								
37kW 4P	T2(N·m)								
	FB								
45kW 4P	T2(N·m)								
	FB								
55kW 4P	T2(N·m)								
	FB								
75kW 4P	T2(N·m)	5083	5880	6511	7241	8066	8920	9925	11808
	FB	4.37	4.2	4.06	3.83	3.44	3.21	2.67	2.31
90kW 4P	T2(N·m)	5070	6100	7056	7813	8689	9680	10704	11910
	FB	3.68	3.64	3.59	3.5	3.38	3.19	2.87	2.58
110kW 4P	T2(N·m)	6197	7456	8624	9549	10620	11831	13082	14557
	FB	3.01	2.98	2.93	2.87	2.76	2.61	2.35	2.11
132kW 4P	T2(N·m)	7436	8947	10349	11459	12744	14197	15699	17468
	FB	2.51	2.48	2.44	2.39	2.3	2.18	1.96	1.76
160kW 4P	T2(N·m)	3380	4067	4704	5209	5793	6453	7136	7940
	FB	2.07	2.05	2.02	1.97	1.9	1.8	1.61	1.45
200kW 4P	T2(N·m)	11267	13556	15680	17362	19310	21510	23786	26467
	FB	1.65	1.64	1.61	1.58	1.52	1.44	1.29	1.16
4kW 6P	T2(N·m)								
	FB								
7.5kW 6P	T2(N·m)								
	FB								
15kW 6P	T2(N·m)								
	FB								
22kW 6P	T2(N·m)								
	FB								
37kW 6P	T2(N·m)								
	FB								
55kW 6P	T2(N·m)	4582	5513	6377	7061	7853	8748	9674	10764
	FB	4.07	4.03	3.96	3.87	3.74	3.53	3.17	2.86
$n_1=4\frac{P_1}{P_{FB}}$ rpm		163	135	117	106	95.0	85.2	77.1	69.3
$n_1=6\frac{P_1}{P_{FB}}$ rpm		108	89.6	77.4	69.9	62.9	56.4	51.0	45.9

## Technic specifications and dimensions

## 技术参数及外形尺寸

## Technic specifications and dimensions

### 电机外型尺寸

### Motor Dimensions

电机机座号 Motor baseframe type	电机功率、极数 Motor power and poles			减速器型号 Models of Speed Reducers	尺寸(mm) Size		
	4P	6P	8P		a12	a13	a14
Y71	0.25 0.37	0.18 0.25	0.18 0.25	SR(37、47、57、67) SR 77	245 233	145 165	80 150
Y80	0.55 0.75	0.37 0.55	0.18 0.25	SR(37、47、57、67、77) SR(87、97)	278 246	165 175	155 175
Y90S	1.1	0.75	0.37	SR(37、47、57、67、77) SR(87、97)	304 280	215 175	180 155
Y90L	1.5	1.1	0.55	SR37 SR(47、57、67、77、87)	340 328	215 240	190 180
Y100	2.2 3	1.5	0.75	SR(47、57、67、77、87、97) SR(97、107)	380 334	275 210	210 210
Y112	4	2.2	1.5	SR(47、57、67、77、87、97) SR 107	425 386	275 210	210 210
Y132S	5.5	3	2.2	SR(47、57、67、77、87、97) SR 107	461 422	275 210	210 210
Y132M	7.5	4.5	3	SR 147	424	275 210	210 210

注：1、表中P1表示配置电机额定功率,n1表示减速器输入转速,n2表示减速器输出转速,T2表示减速器使用系数2、表中黑色方框内参数需配电机接法兰;

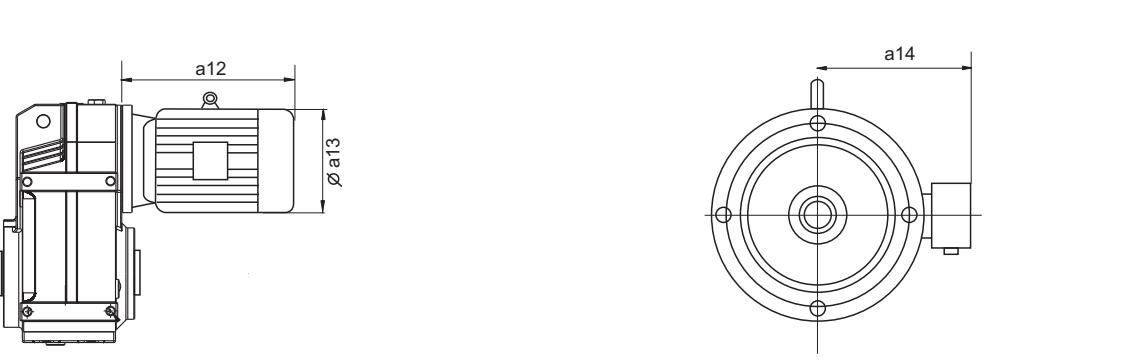
3、SR187型减速器许用扭矩TN2为30000N·m。  
Note: 1. P1 in the table denotes rated power of motor is furnished,n1 denotes input revolution of speed reducer, n2denotes its output torque, and FBdenotes its performance coefficient2. Parameters inside black frame of the table need to be furnished with motor connecting flange;3. SR187 type speed reducer allowable torque TN2 is 30000N·m.

## 技术参数及外形尺寸

### 电机外型尺寸

## Technic specifications and dimensions

### Motor Dimensions



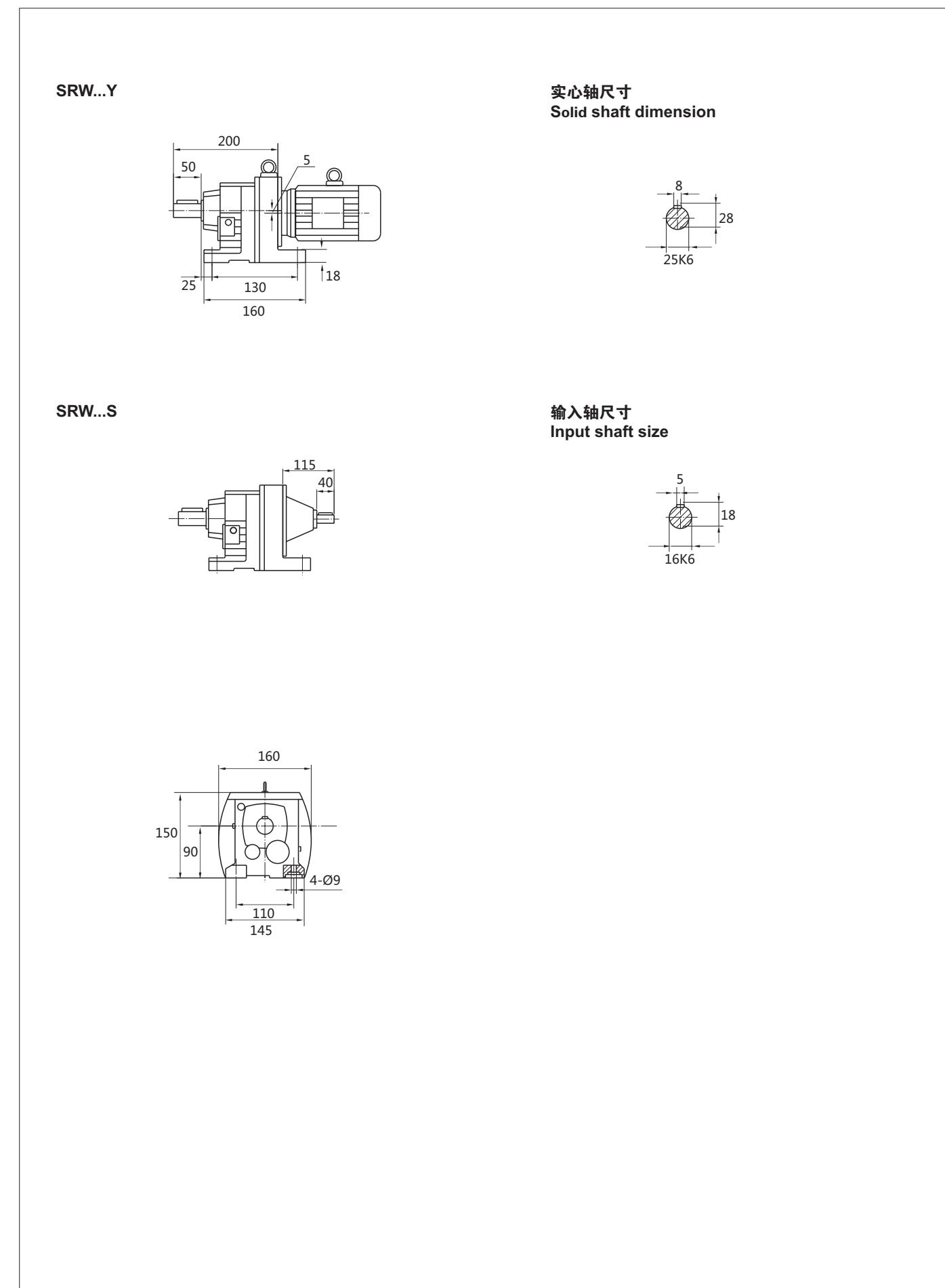
电机机座号 Motor baseframe type	电机功率、极数 Motor power and poles			减速器型号 Models of Speed Reducers	尺寸(mm) Size		
	4P	6P	8P		a12	a13	a14
Y160M	11	7.5	4 5.5	SR(77、87、97)	524	330	255
				SR 107	504		
				SR(137、147、167)	567		
Y160L	15	11	7.5	SR(77、87、97)	547	330	255
				SR 107	519		
				SR(137、147、167)	602		
Y180M	18.5			SR 87	583	380	280
				SR(97、107)	555		
				SR(137、147)	583		
				SR 167	635		
Y180L	22	15	11	SR 87	616	380	280
				SR(97、107)	588		
				SR(137、147)	616		
				SR 167	666		
Y200L	30	18.5 22	15	SR(97、107)	654	420	305
				SR(137、147)	654		
				SR 167	642		
Y225S	37	18.5	18.5	SR 107	680	450	345
				SR(137、147)	670		
				SR 167	669		
Y225M	45	30	22	SR 107	702	450	345
				SR(137、147)	696		
				SR 167	691		
Y250M	55	37	30	SR(137、147)	775	510	370
				SR 167	770		
Y280S	75	45	37	SR 167	828	580	410
Y280M	90	55	45	SR 167	879	580	410
Y315S	110	75	55	SR 187	1100	645	530
Y315M	132	90	75	SR 187	1180	645	530
Y315L1	160	110	90	SR 187	1270	645	530
Y315L2	200	132	110	SR 187	1270	645	530

## 技术参数及外形尺寸

### SR37卧式底脚尺寸图

## Technic specifications and dimensions

### Dimensions of SR37 Gearmotor

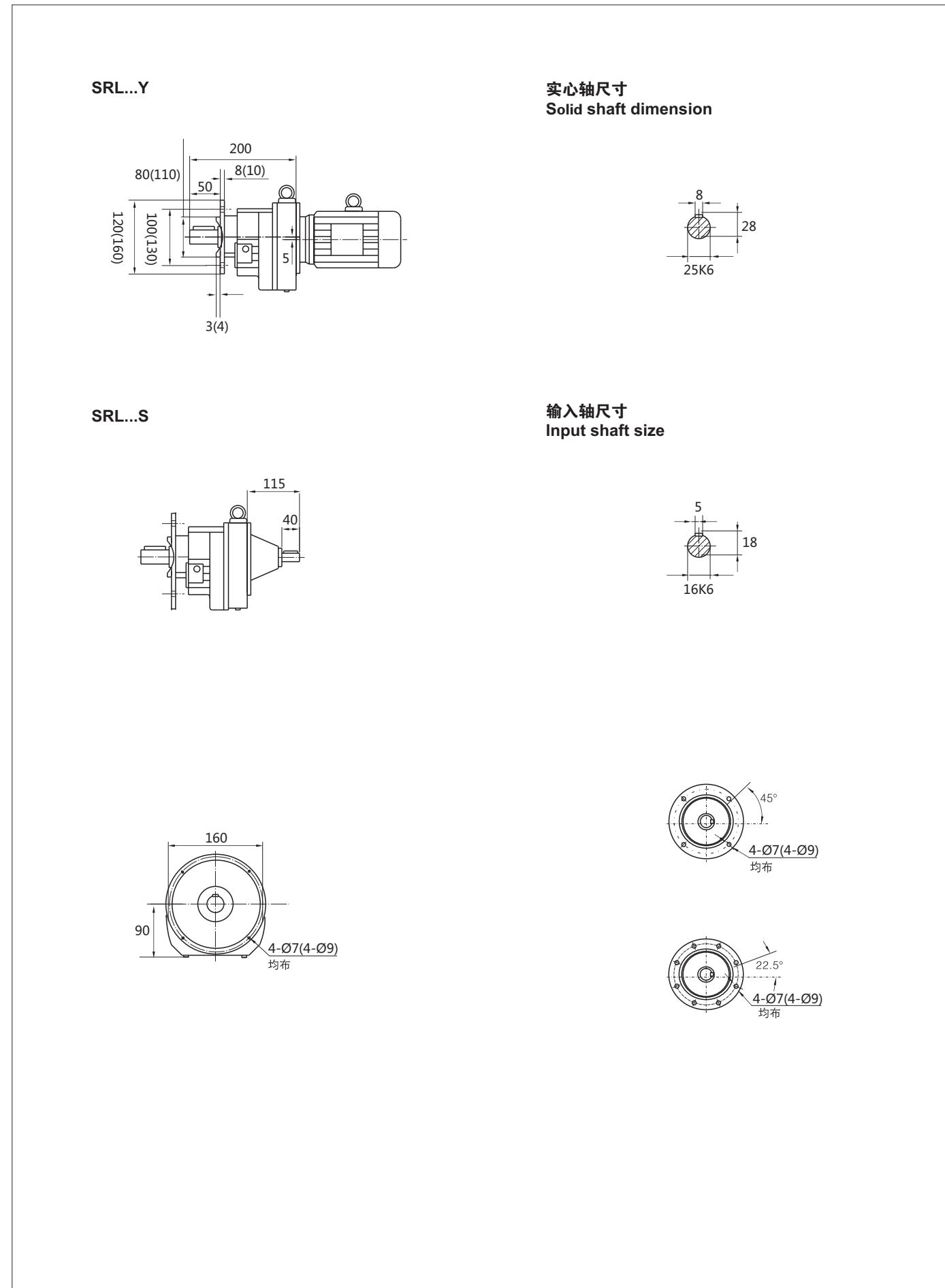


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR37立式法兰安装尺寸图

Dimensions of SR37 Gearmotor

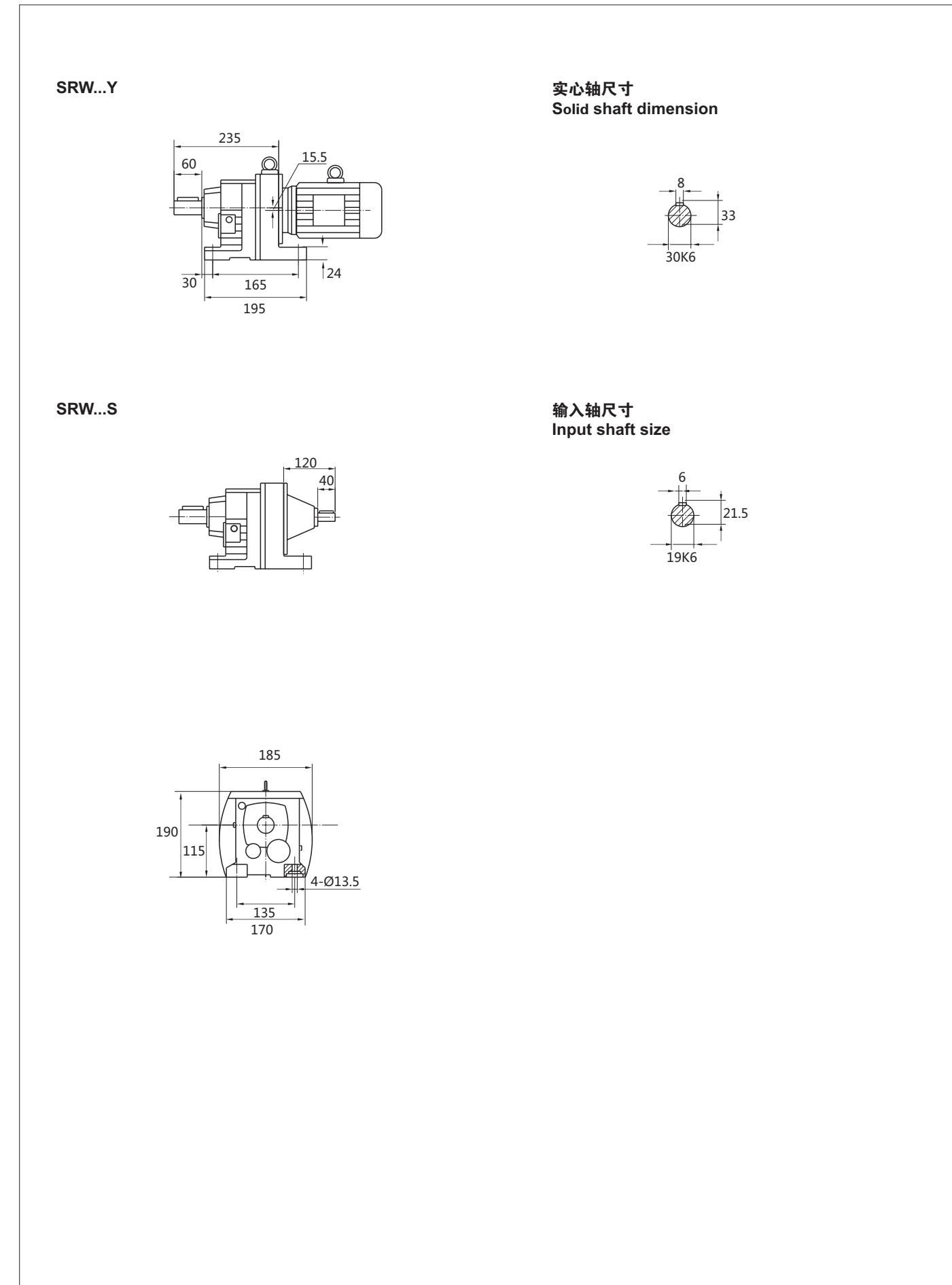


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR47卧式底脚尺寸图

Dimensions of SR47 Gearmotor

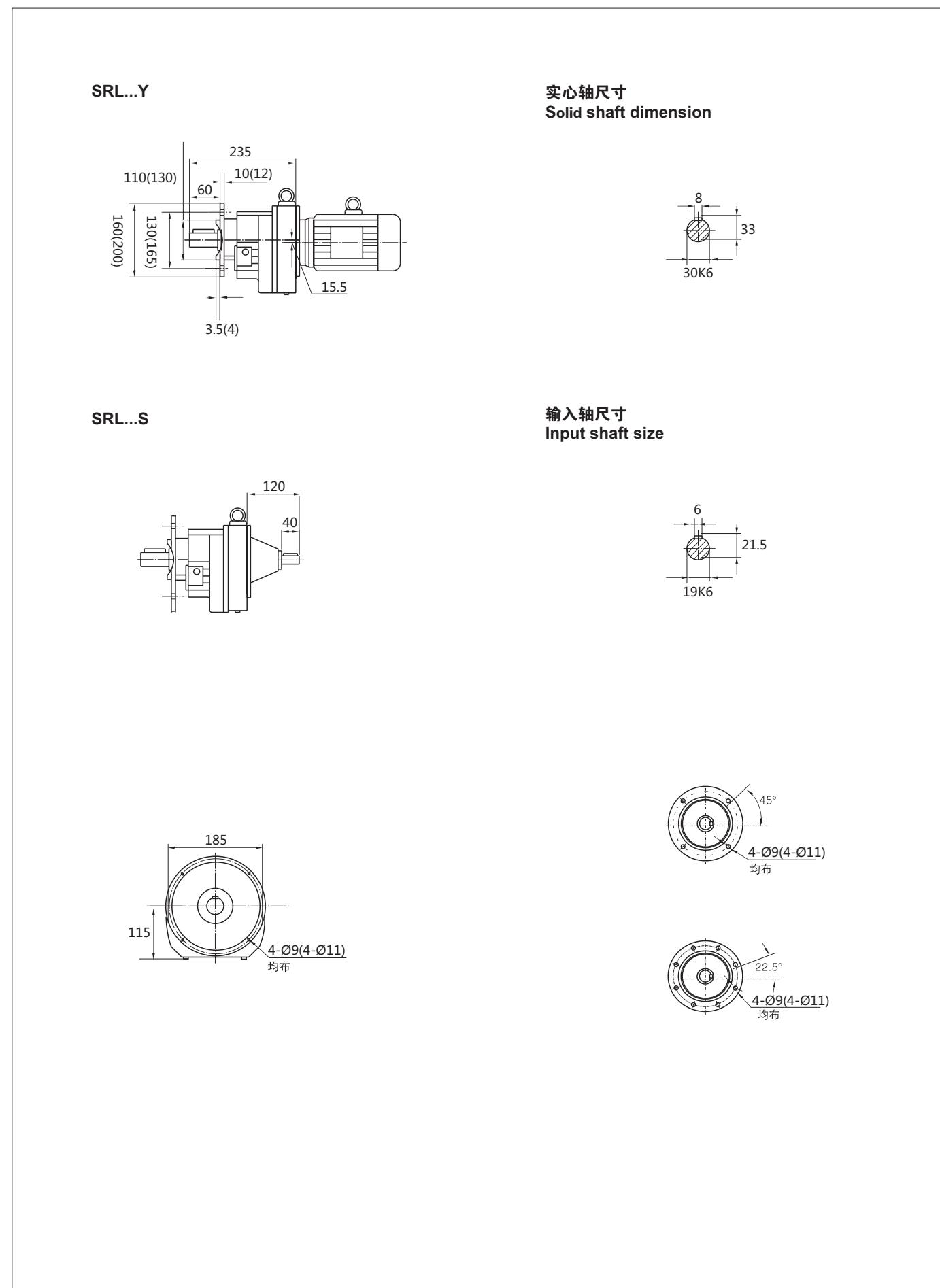


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR47立式法兰安装尺寸图

Dimensions of SR47 Gearmotor

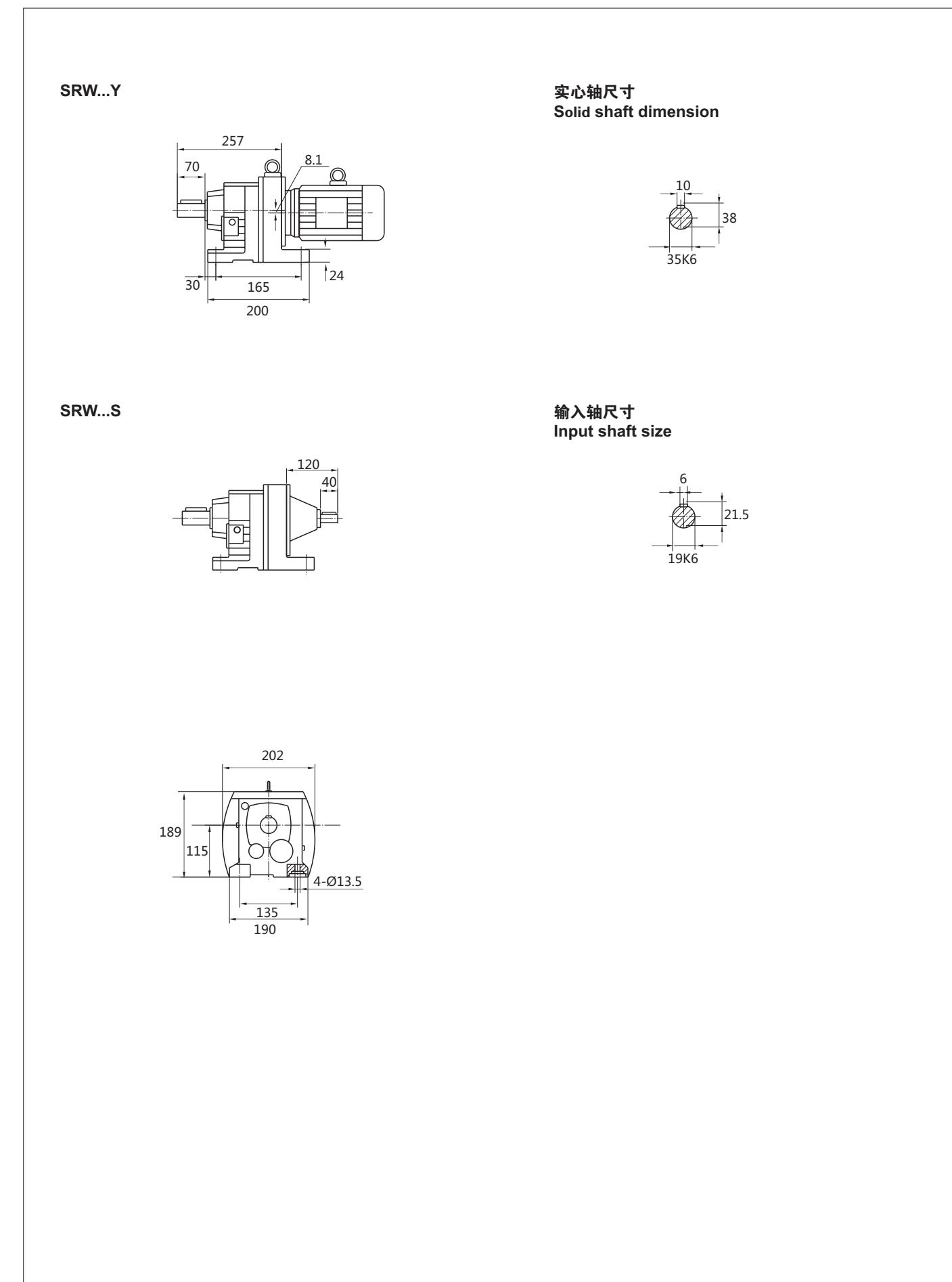


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR57卧式底脚尺寸图

Dimensions of SR57 Gearmotor

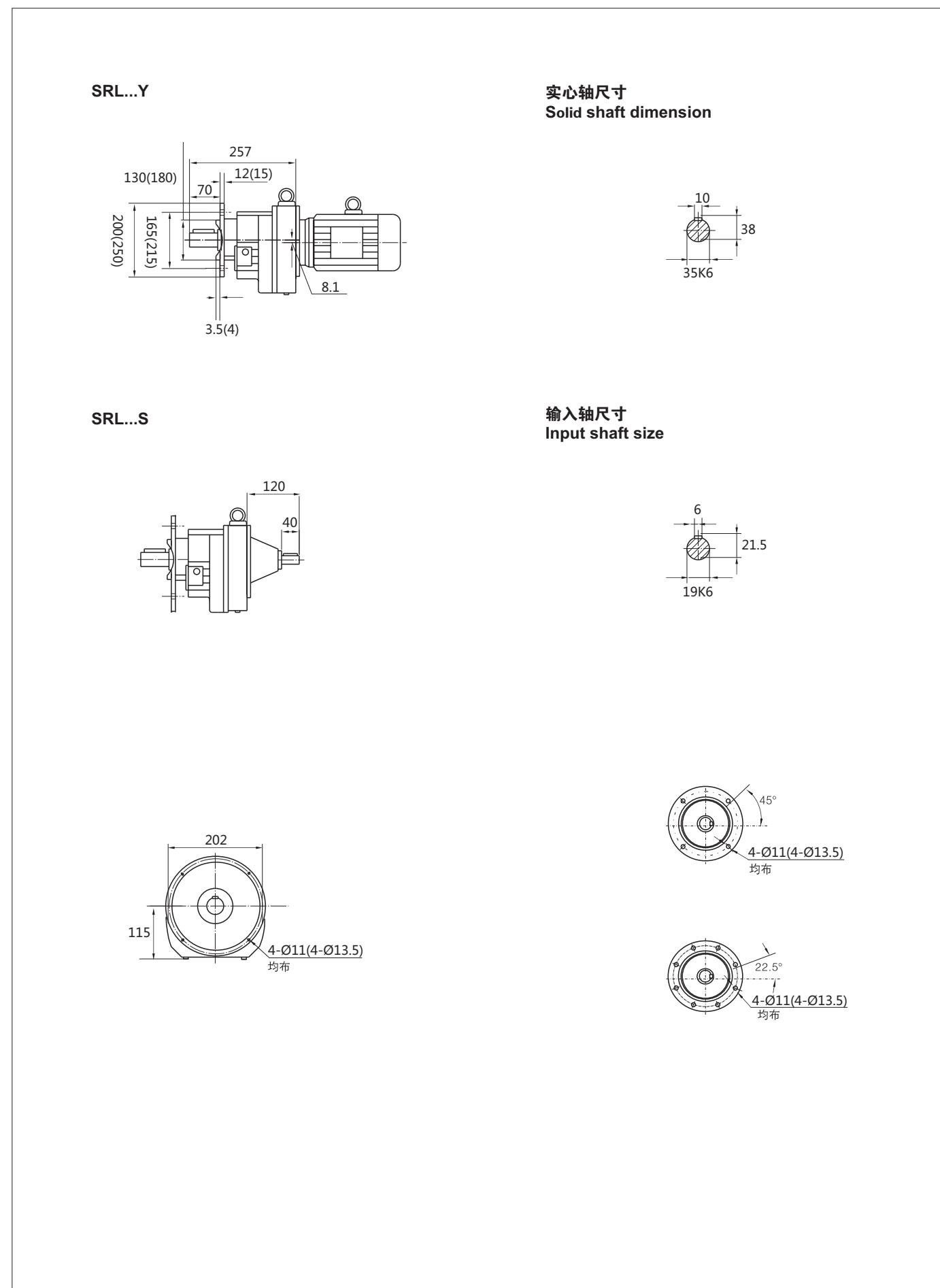


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR57立式法兰安装尺寸图

Dimensions of SR57 Gearmotor

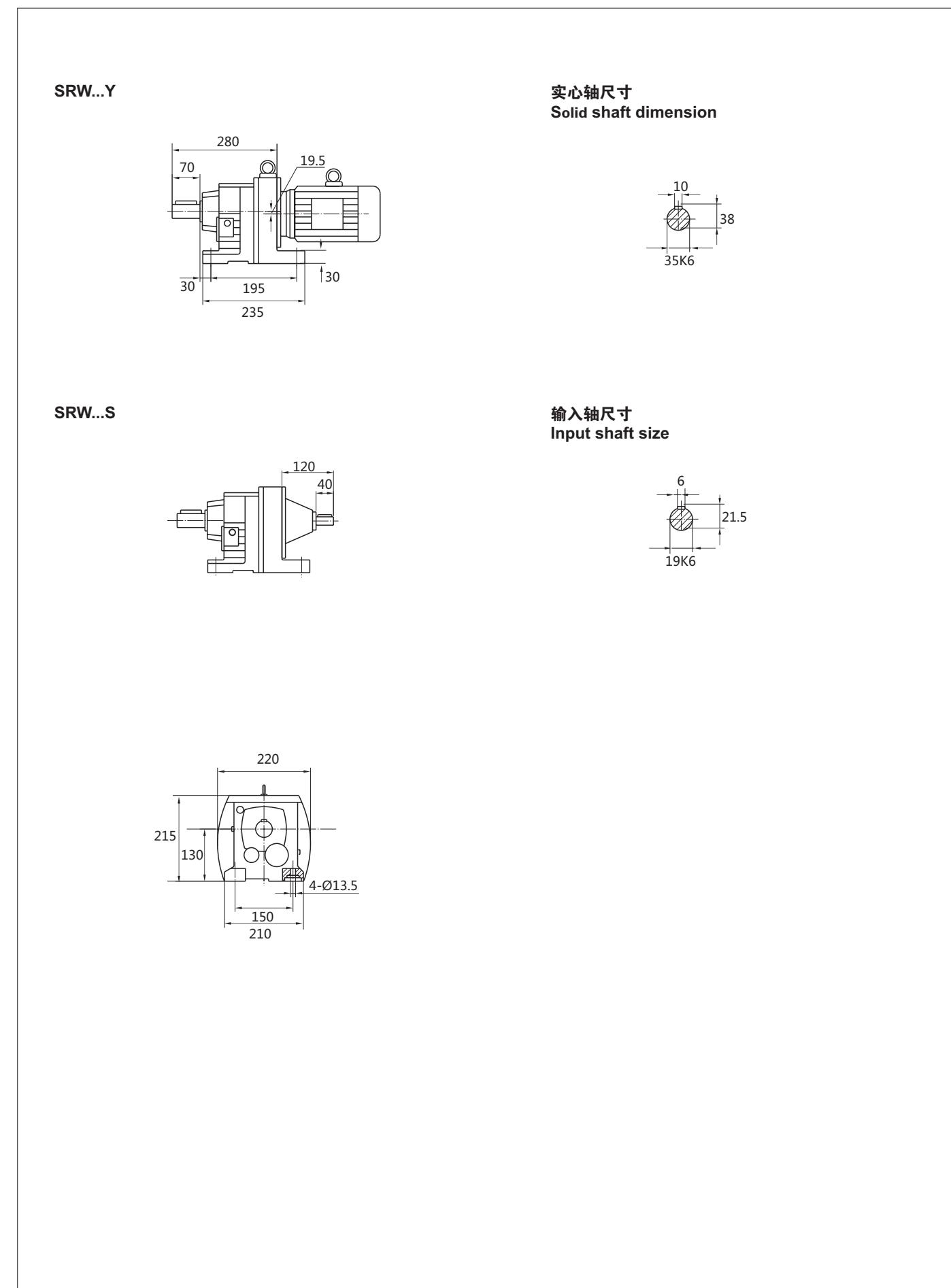


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR67卧式底脚尺寸图

Dimensions of SR67 Gearmotor

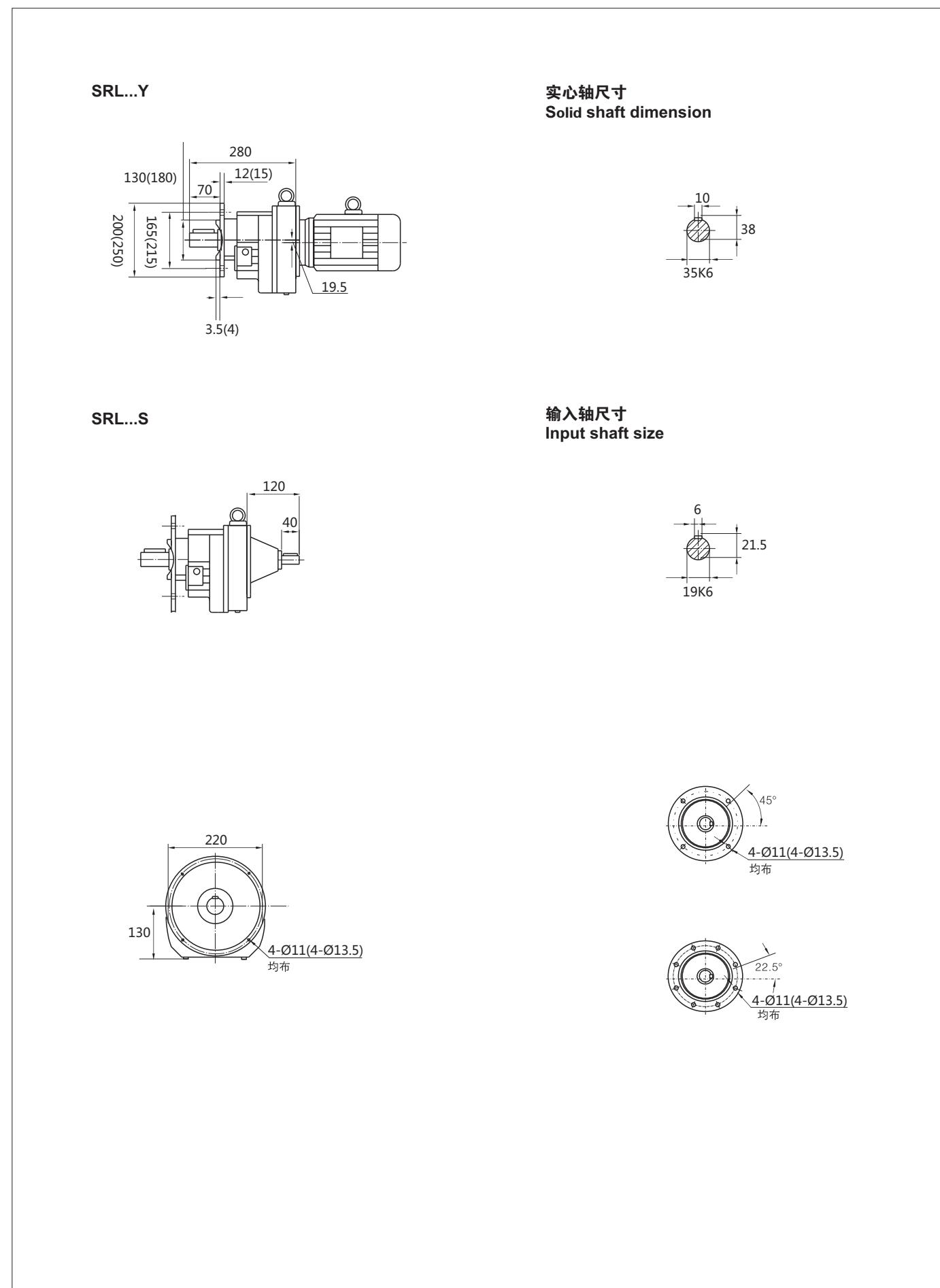


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR67立式法兰安装尺寸图

Dimensions of SR67 Gearmotor

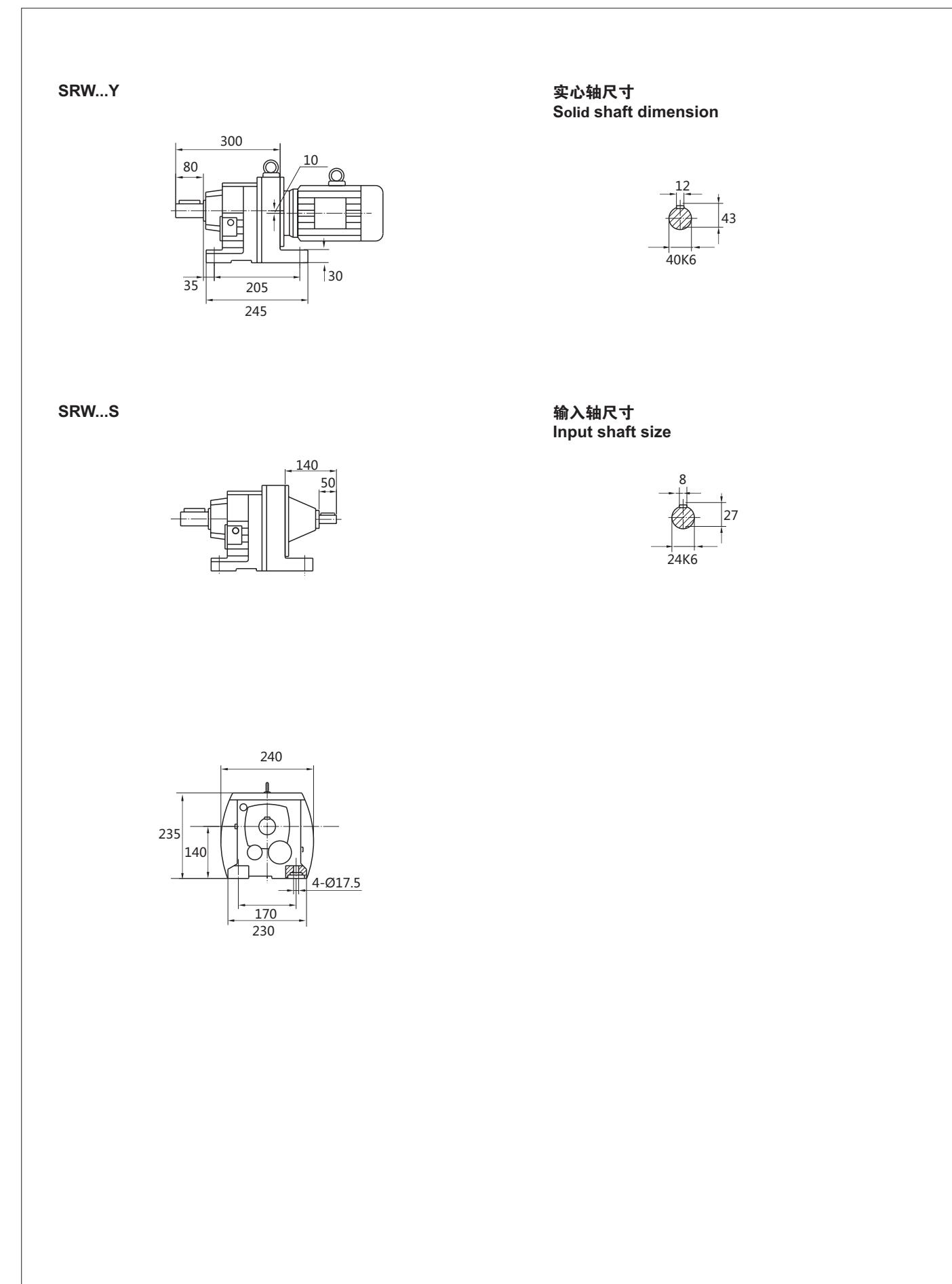


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR77卧式底脚尺寸图

Dimensions of SR77 Gearmotor

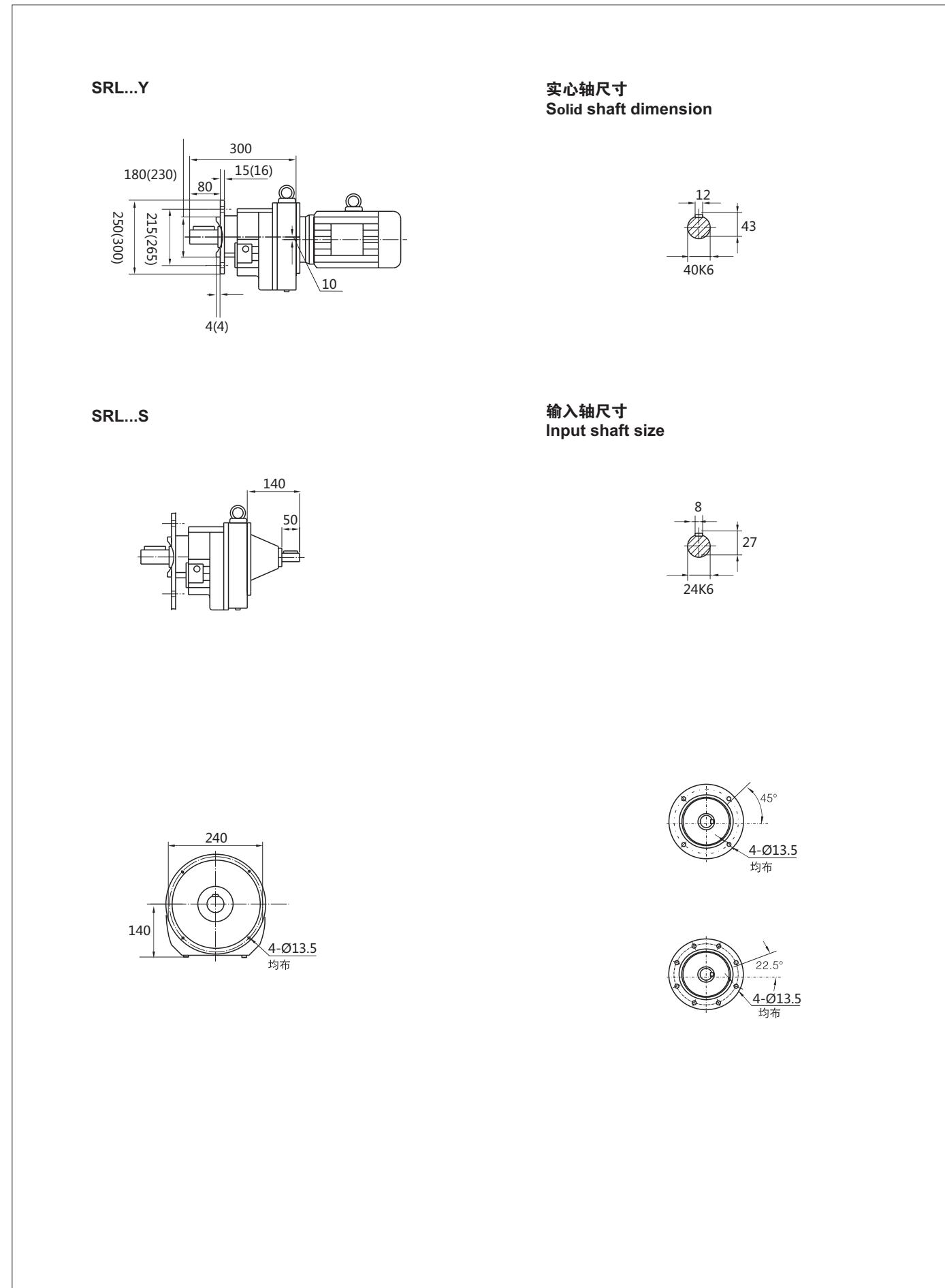


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR77立式法兰安装尺寸图

Dimensions of SR77 Gearmotor

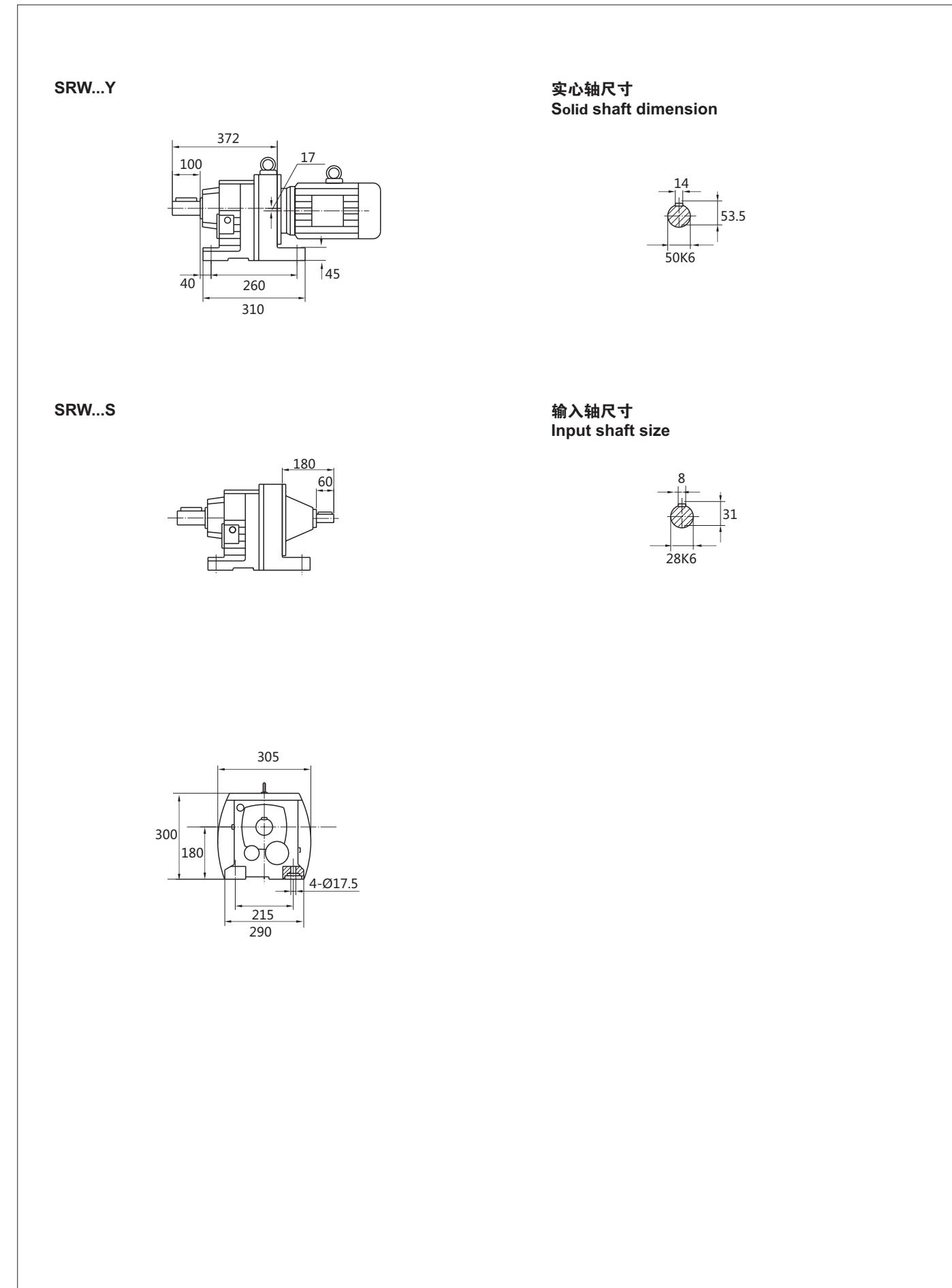


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR87卧式底脚尺寸图

Dimensions of SR87 Gearmotor

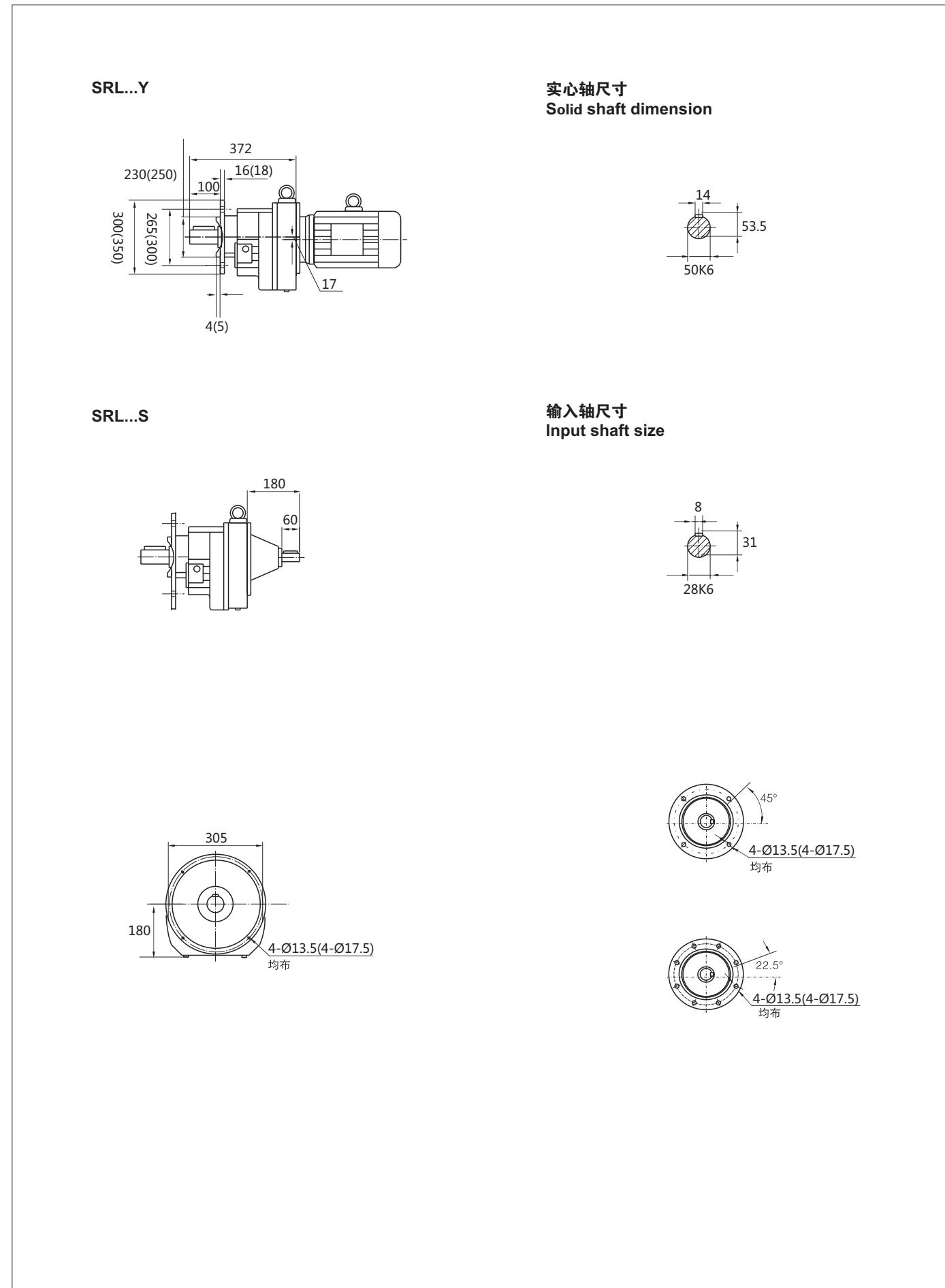


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR87立式法兰安装尺寸图

Dimensions of SR87 Gearmotor

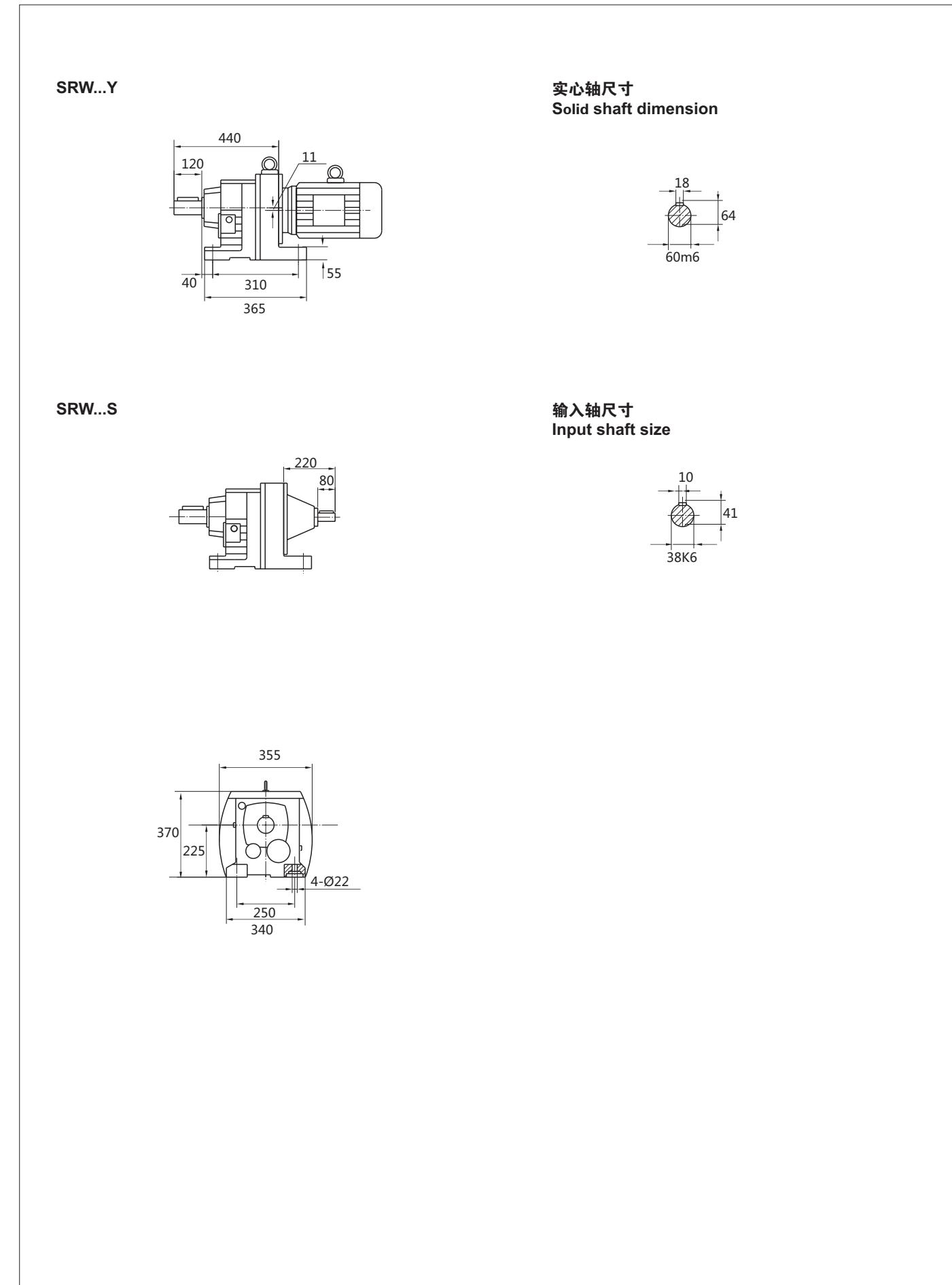


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR97卧式底脚尺寸图

Dimensions of SR97 Gearmotor

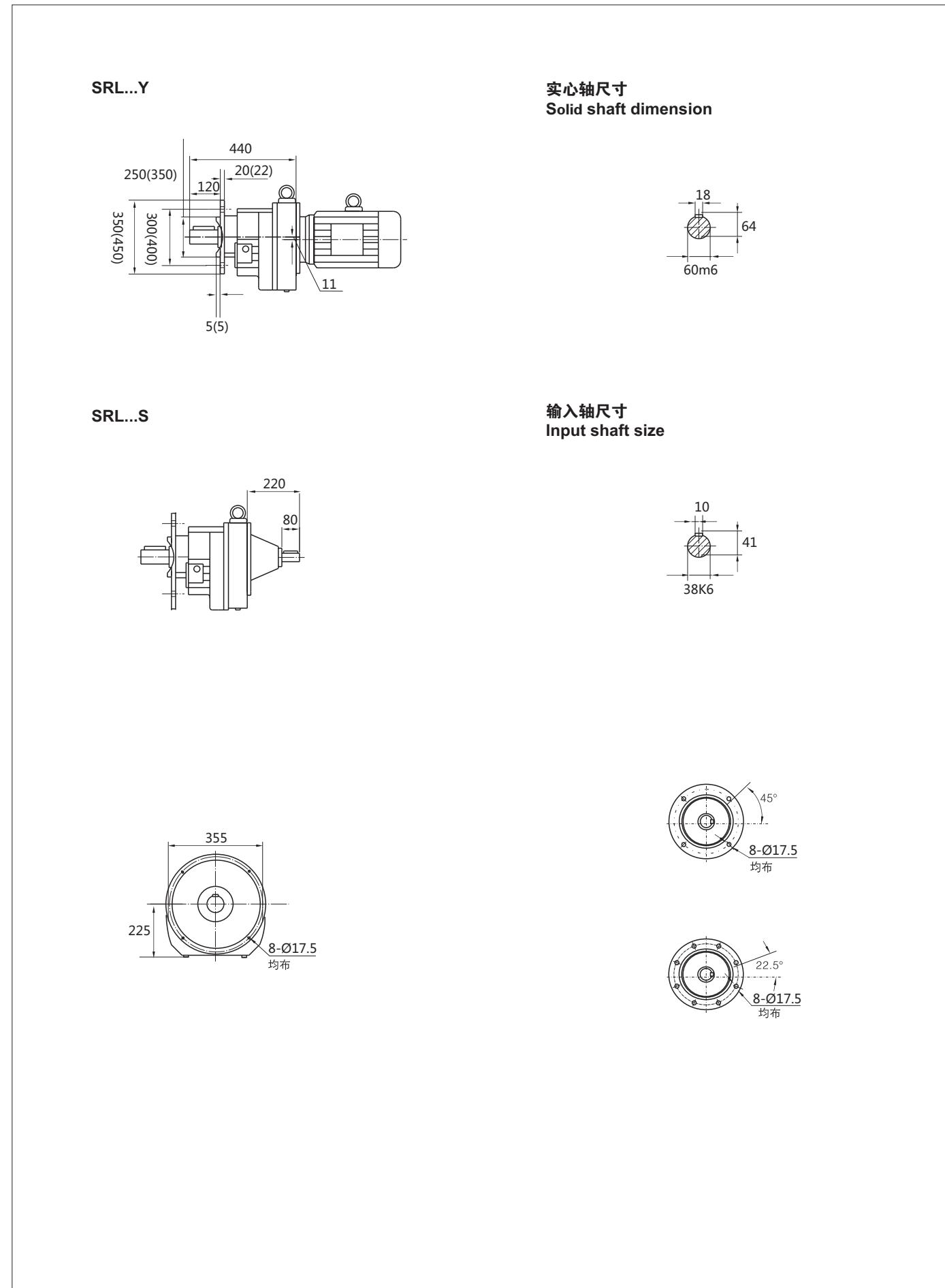


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR97立式法兰安装尺寸图

Dimensions of SR97 Gearmotor

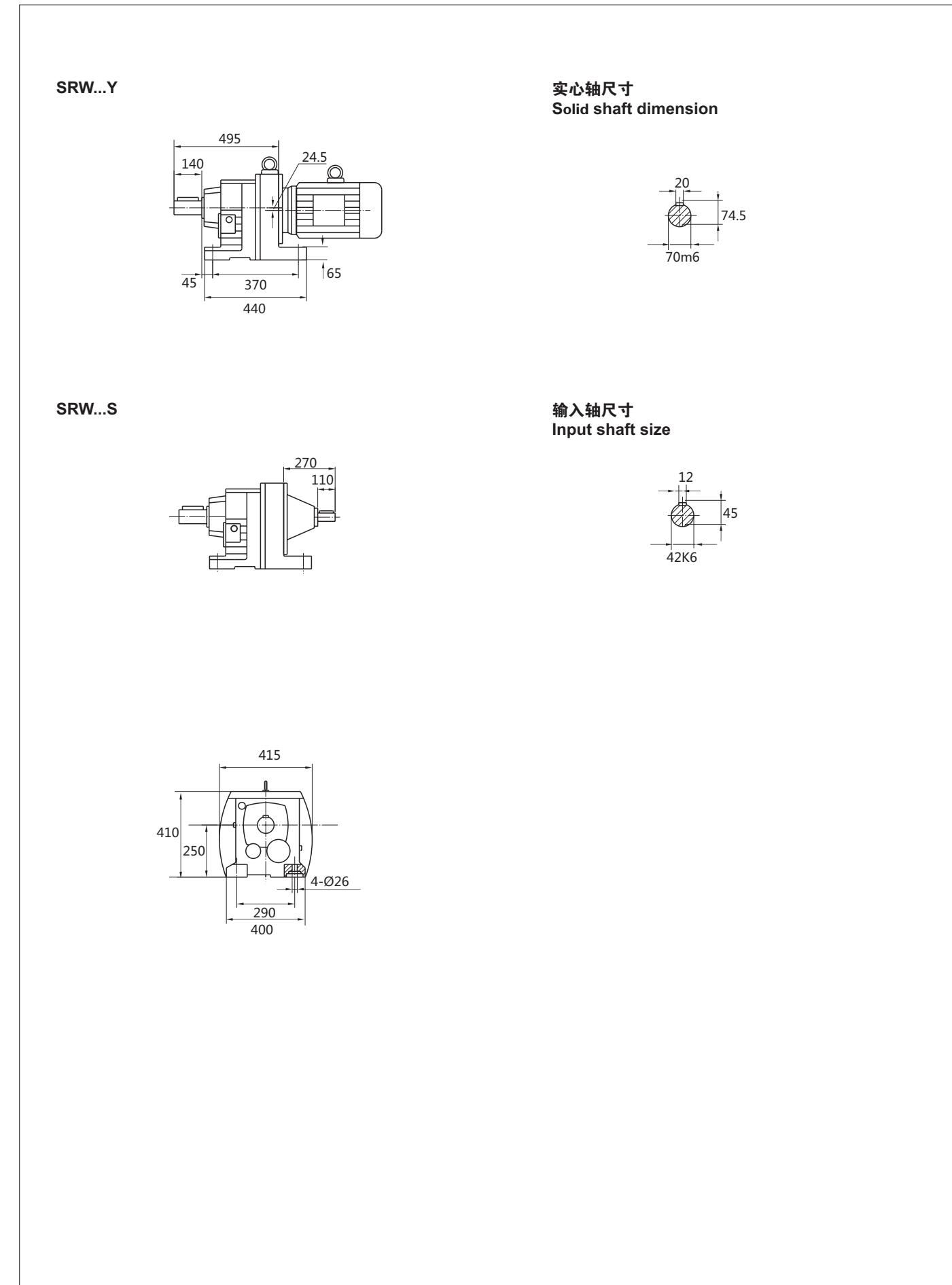


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR107卧式底脚尺寸图

Dimensions of SR107 Gearmotor

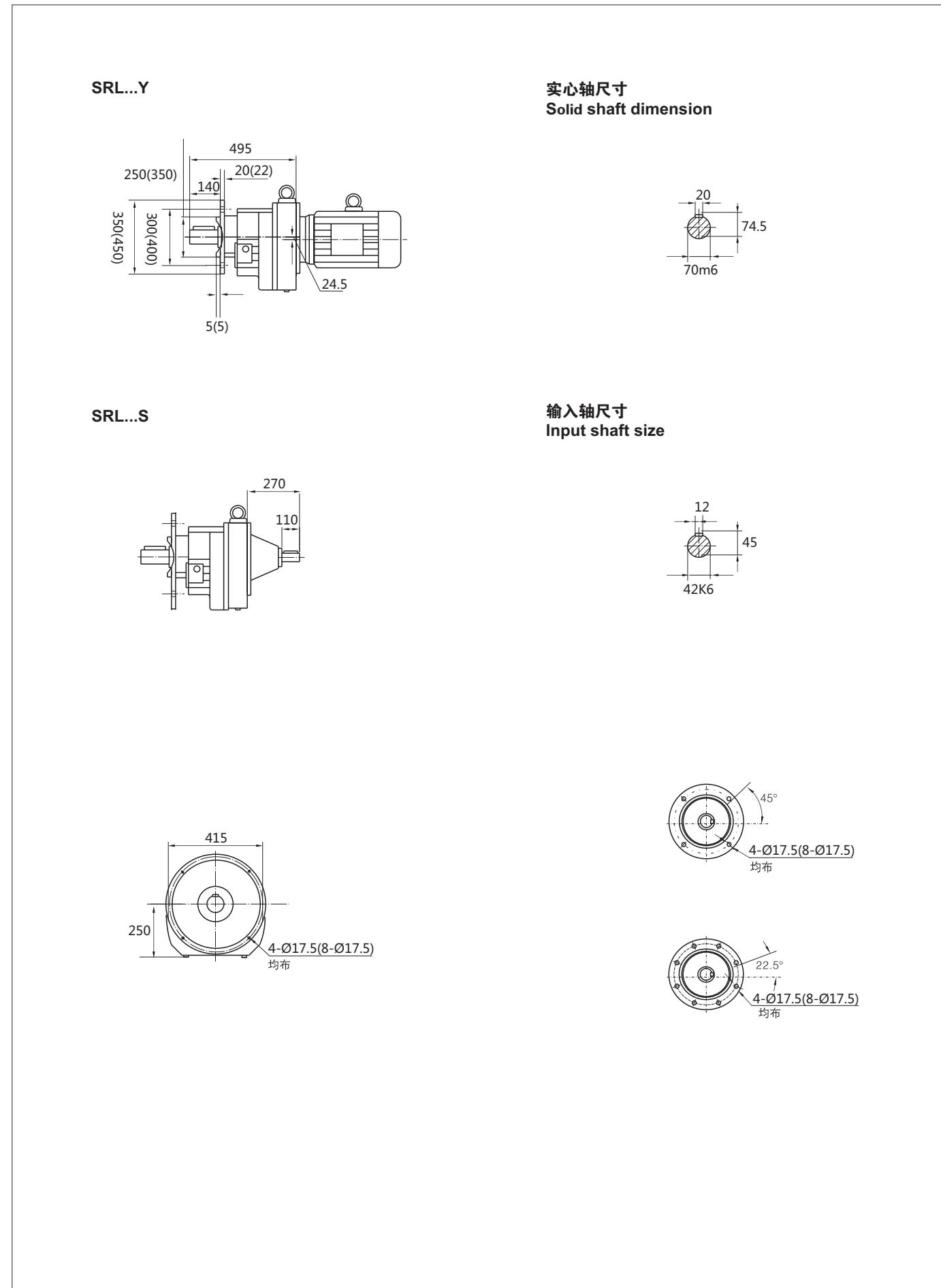


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR107立式法兰安装尺寸图

Dimensions of SR107 Gearmotor

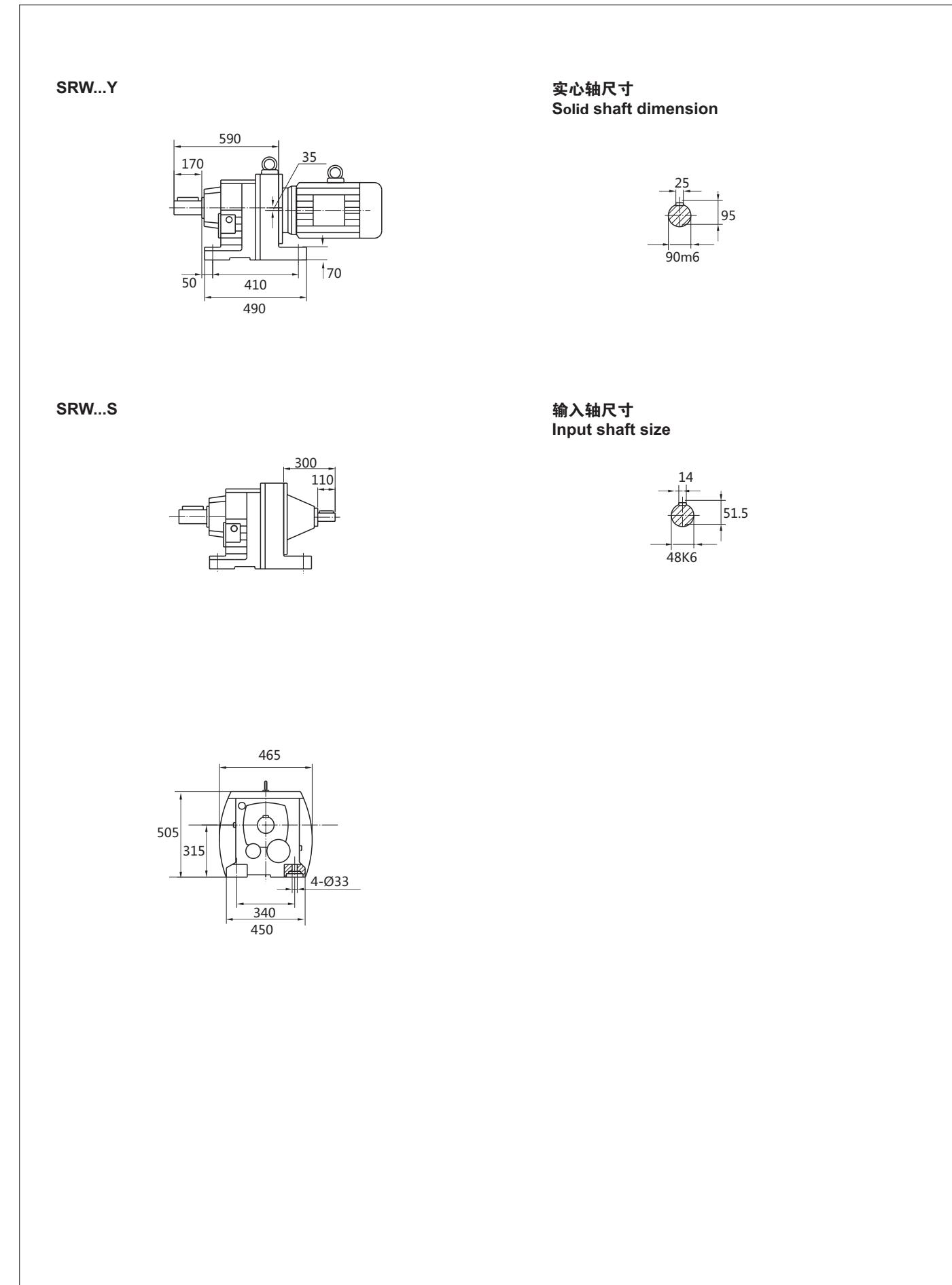


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR137卧式底脚尺寸图

Dimensions of SR137 Gearmotor

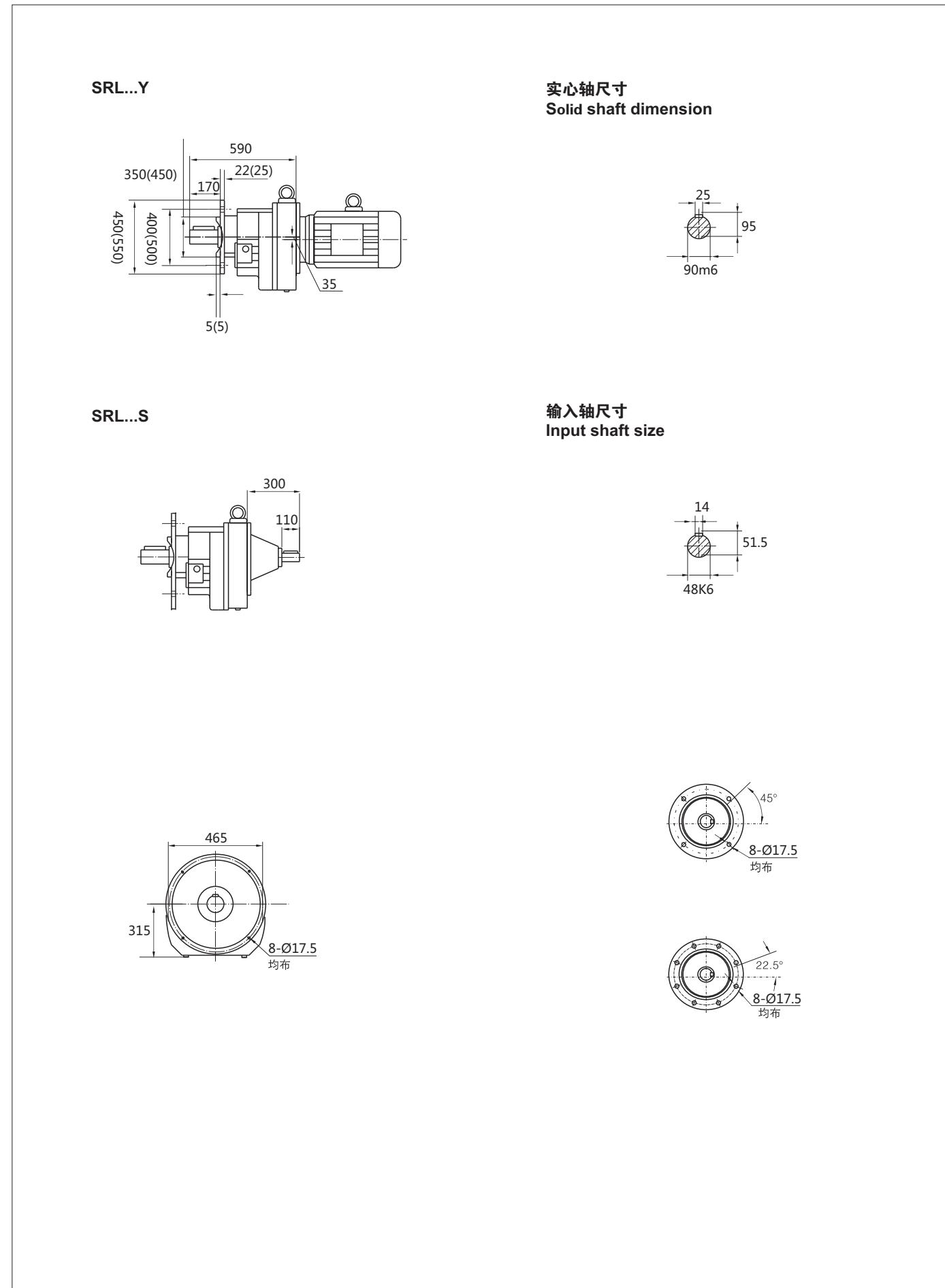


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR137立式法兰安装尺寸图

Dimensions of SR137 Gearmotor

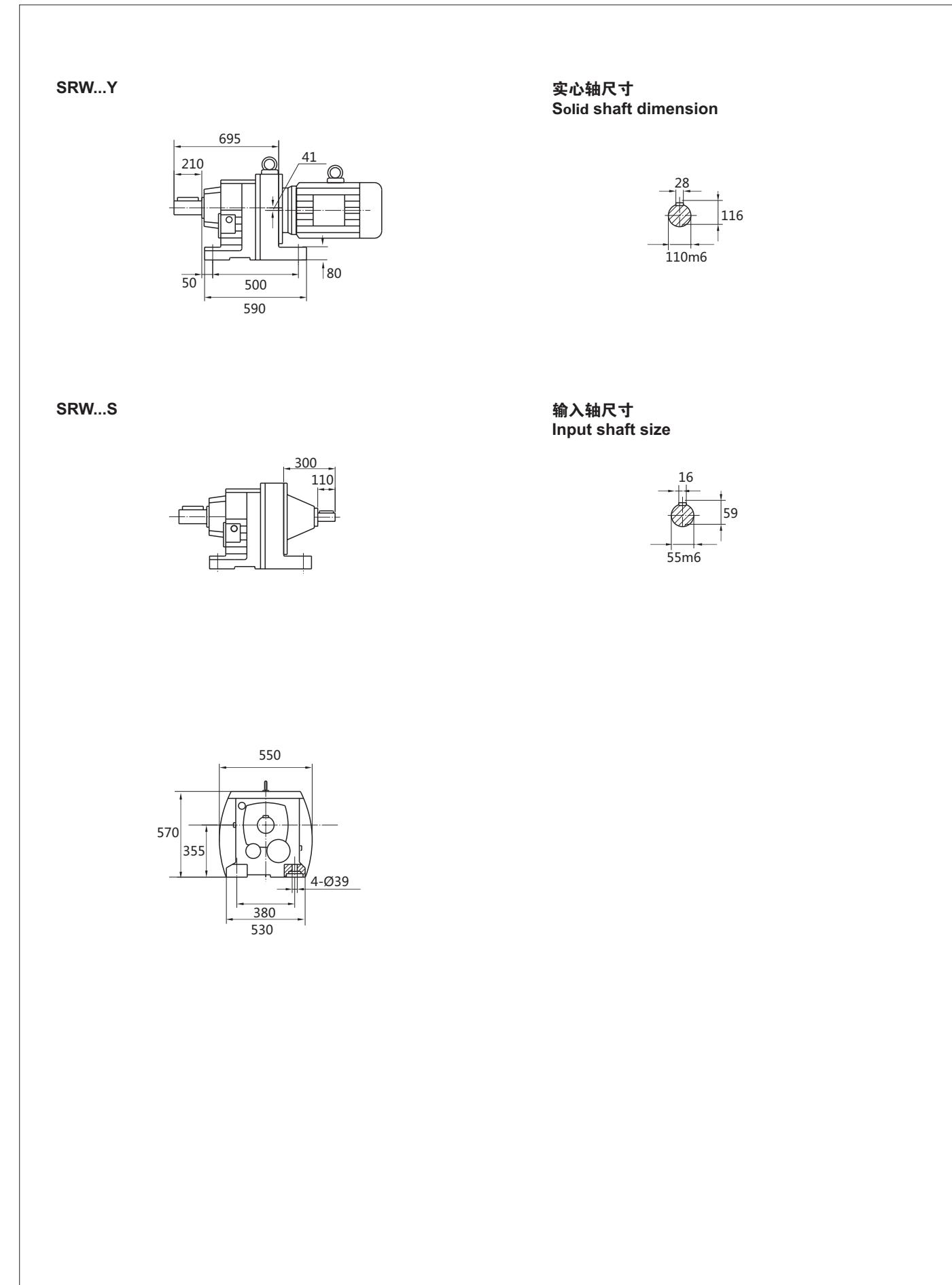


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR147卧式底脚尺寸图

Dimensions of SR147 Gearmotor

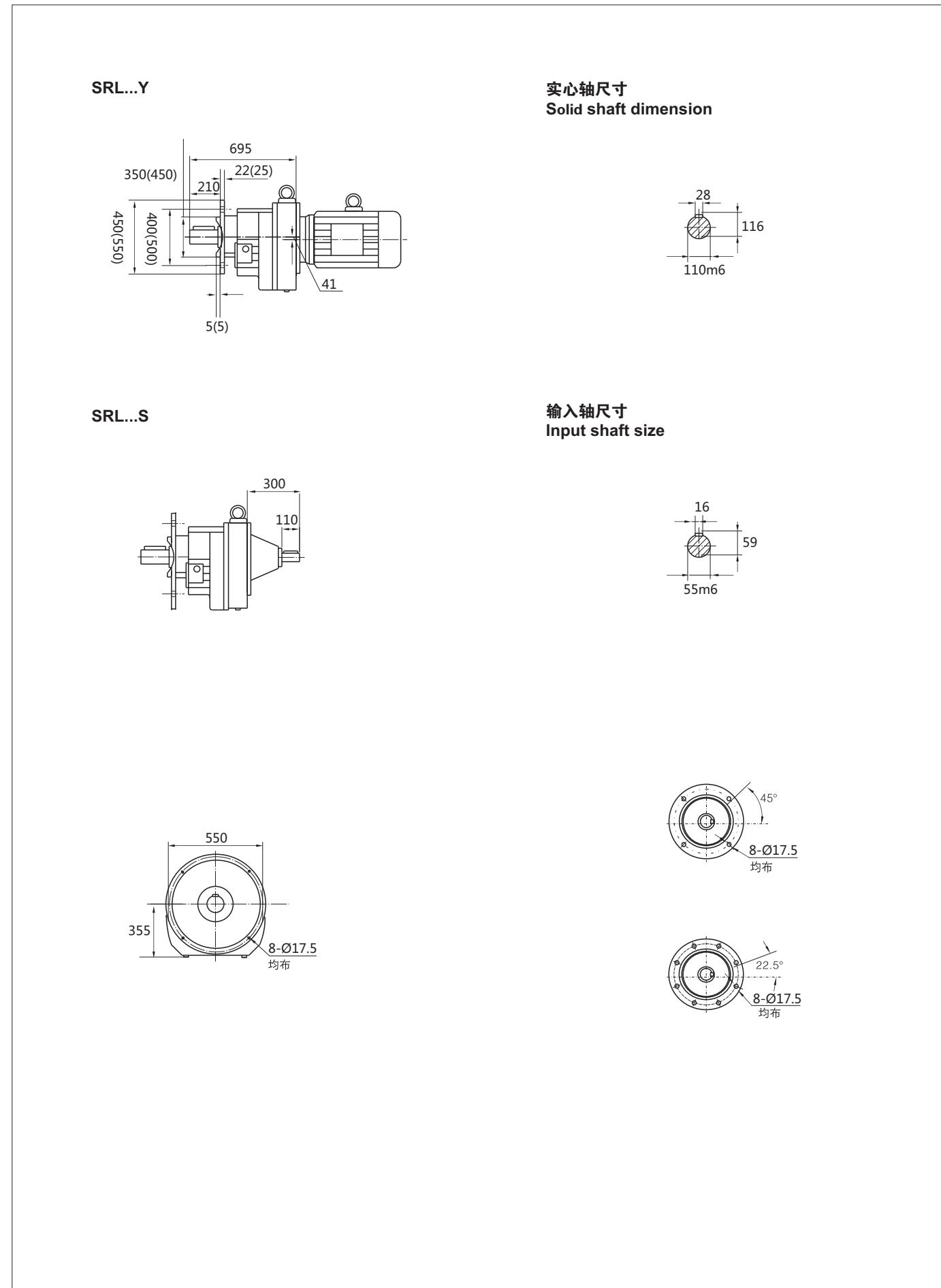


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR147立式法兰安装尺寸图

Dimensions of SR147 Gearmotor

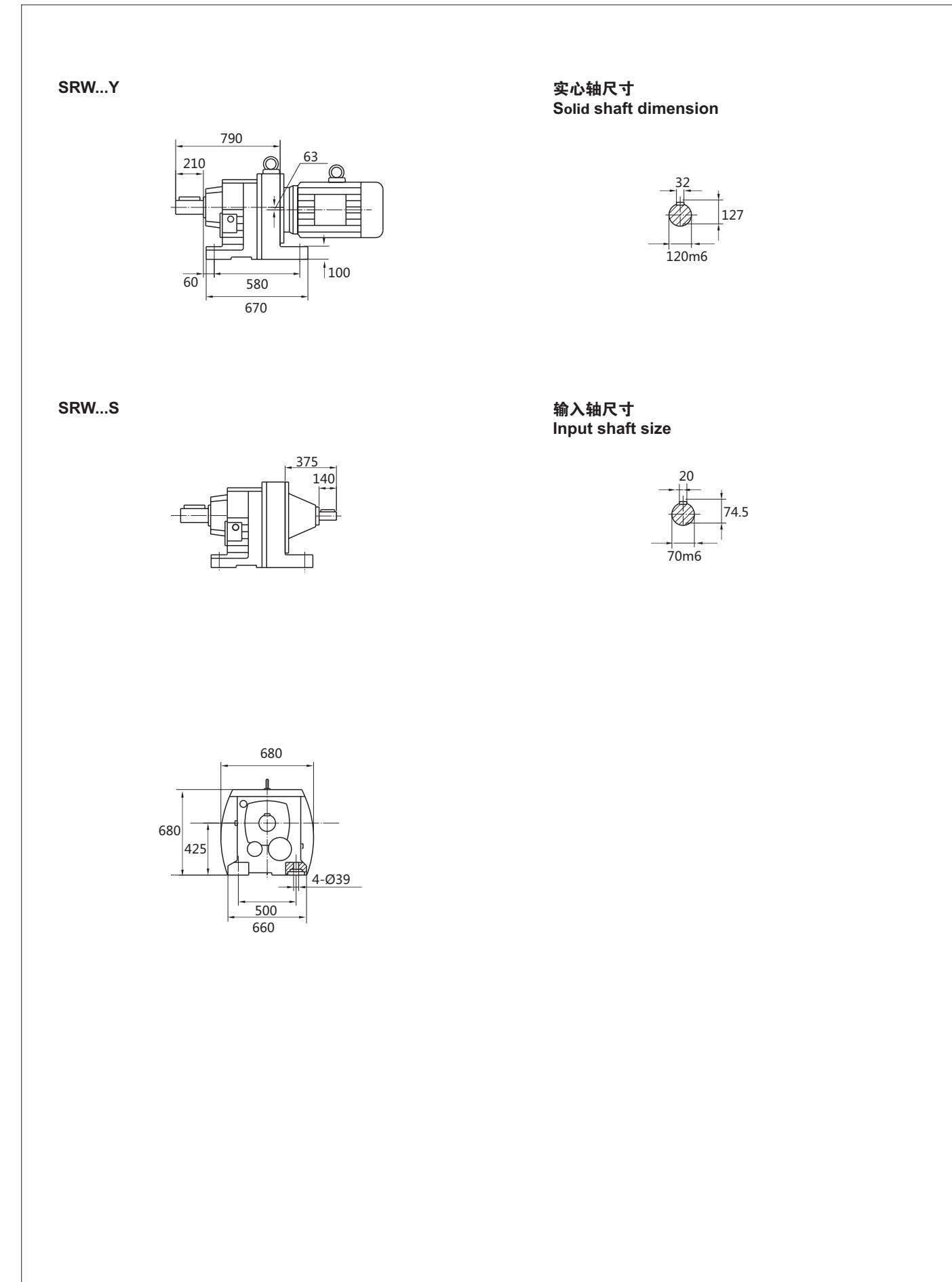


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR167卧式底脚尺寸图

Dimensions of SR167 Gearmotor

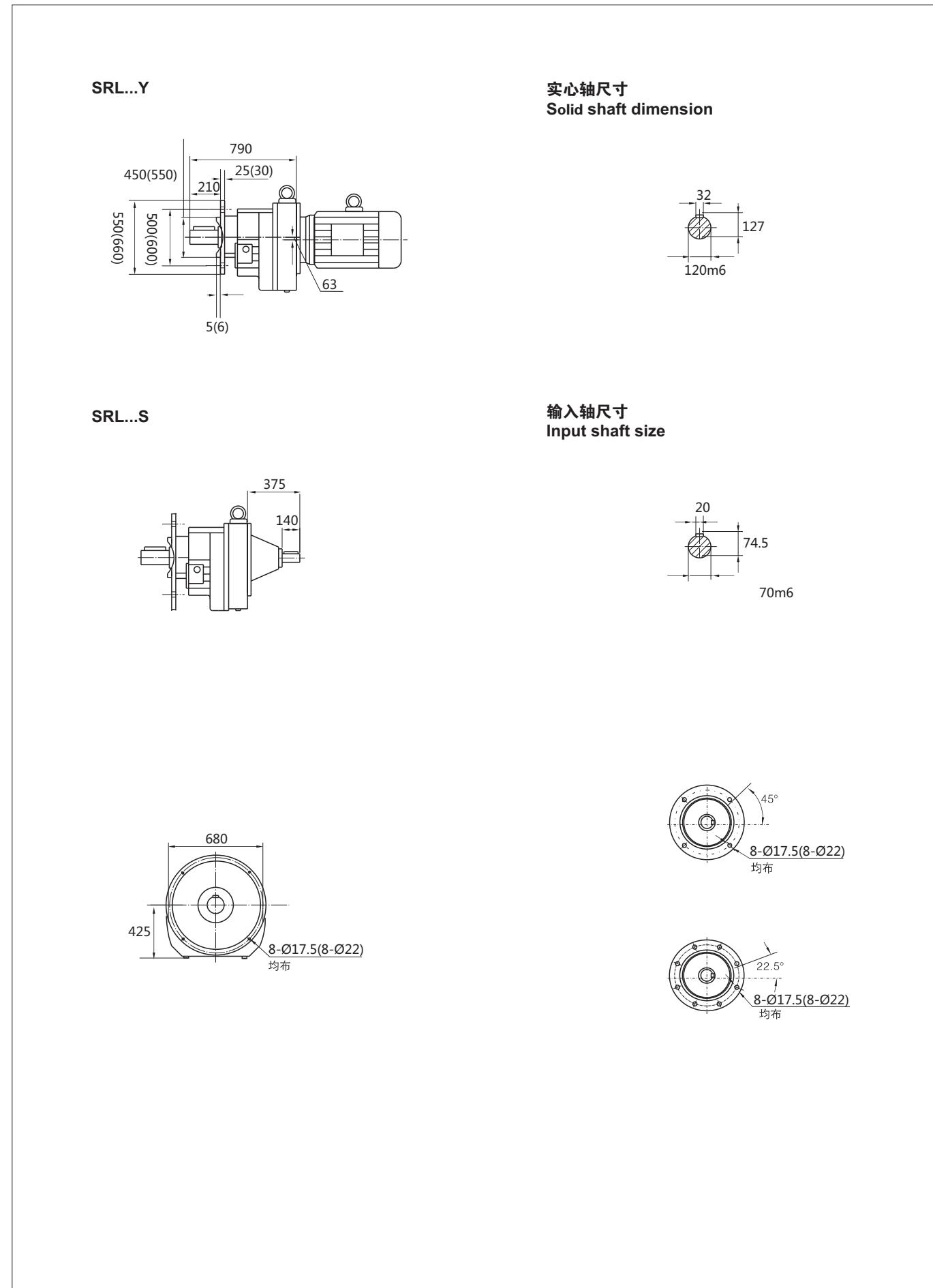


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR167立式法兰安装尺寸图

Dimensions of SR167 Gearmotor

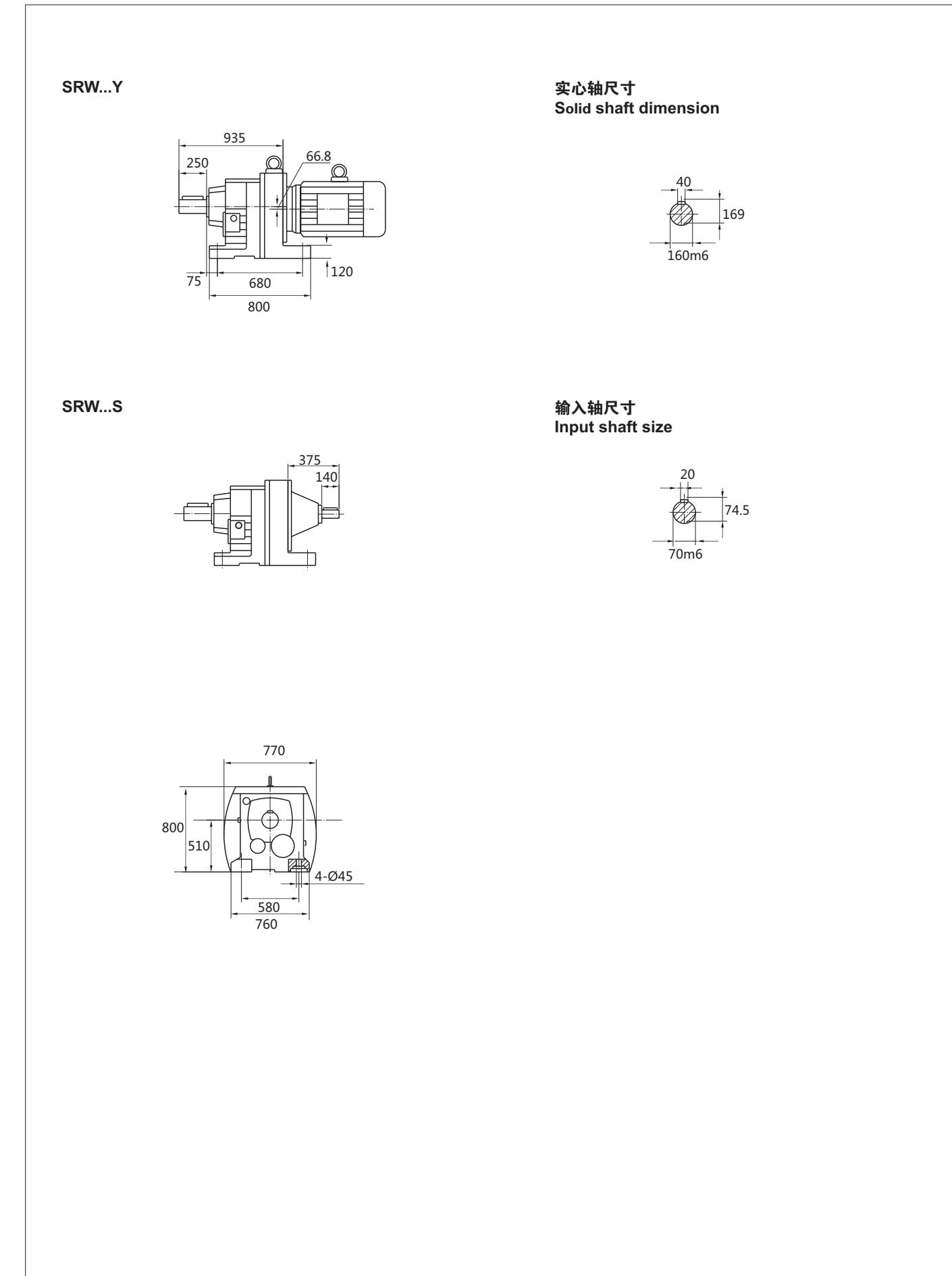


## 技术参数及外形尺寸

## Technic specifications and dimensions

SR187卧式底脚尺寸图

Dimensions of SR187 Gearmotor



SR187立式法兰安装尺寸图

Dimensions of SR187 Gearmotor

