

FUTURERAS 系列三叶罗茨鼓风机
FUTURERAS Three-lobe Roots Blower

使用说明书
Operation Manual

(使用之前，请仔细阅读本说明书)

(Please read this operation manual carefully before putting the device into operation)

一、三叶风机构造说明

工作原理：电机通过 V 型带带动风机，是从大气中吸入的空气通过一对三叶轮的回转从排气口排出（关于风机详细结构，请参看后面 RTSR 型风机展开图）。

1. Structure Instruction of Three-lobe Roots Blower

Operation principle: Motor is driven the blower by the V belt and through a pair of turning trilobed wheel to exhaust the intake air from the exhaust port (As for the detail structure of the blower, please reference the extension drawing of RTSR blower).

二、风机安装注意事项

2. Installation Notices of Blower

- 1、 请不要把风机设置在易产生有机溶剂、涂料等易燃性气体和腐蚀性气体的场所，以防火灾和中毒。
1. Not install the blower under the flammable gas and corrosive gases condition, such as organic solvent and coating, in order to avoid the fire and poisoning.
- 2、 请不要把风机设置在人经常通过和儿童经常出入的场所，以防受伤和烫伤。
2. Not install the blower on the places where adults and children are more likely to walk through, in order to avoid the wounded and scalding.
- 3、 风机房内温度应在 40℃ 以下，超过 40℃ 将会极大缩短风机和电机的寿命，请设置换气扇，确保温度在 40℃ 以下。

3. Blower room temperature shall be below 40°C. If the temperature is more than 40°C, it's will shorten the lifespan of blower and motor. Please install the ventilator to make sure that the room temperature is below 40°C.

三、 风机配管安装注意事项

3. Installation Notices of Blower Tubing

1、 风机管道要挠性连接，不要在管道上放杂物。

1. Blower tubing shall be connected flexible and not put any sundries on the tubing.

2、 管道材料应能承受排气时的温度和风压（可采用钢管）。

2. During the air exhaust, the material of tubing shall be able to withstand the gas temperature and wind pressure (can use the steel pipe).

3、 管道内部清洁，防止杂物进入。

3. It's shall keep the internal tubing clean to avoid any sundries on it.

4、 安装一个逆止阀，防止由于逆转而引起的回流进入风机。

4. Install a check valve to avoid the back flow enter into the blower due to the reverse rotation.

5、 多台风机并列运转的场合，各分管道上必须设置闸阀（其中一台风机检修时，可截止该管道）。

5. On the condition that many blowers running in parallel, each sub-tubing, must be installed a sluice valve (when repair one of the blowers, it's can cut off this tubing).

四、 风机操作前注意事项

4. Important Notices Before Operate the Blower

一、 清扫管道内的异物，并保持管道内的清洁。

1. Clean up the foreign matters in the internal tubings and keep them clean.

二、 检查螺栓、螺母的连接松紧情况。

2. Inspect the connection tightness condition of bolt and nut.

三、 必须安装皮带罩，防止衣服和手等卷入皮带和皮带轮之间。

3. Must be installed a pulley cover to avoid the clothes and hands etc, involved between belt and belt pulley.

四、 将管道上的闸阀全部打开，否则风机超负荷运转，机器受损。

4. Open all of the sluice valves in the tubing, or else the blower will be operated at an overload condition, the machine will be damaged.

五、 加入齿轮油，油面静止于油标中心位置(风机出厂时，不含齿轮油)。

5. Add gear oil, oil level shall be still placed at the center of oil gauge (When leave the factory, blower is not including the gear oil).

六、 检查皮带张力和皮带轮偏正，风机出厂时，已调整完好，请确认在运输与安装过程中有无松动。

6. Inspect the belt tension and belt pulley offset. When leave the factory, blower is already be good adjusted, so please make sure that whether have any loosen during the transportaton and installation process.

七、 加注轴承润滑脂，可用油枪加至油从压盖上的泄油孔泄出为止(风机出厂时，已含轴承润滑脂)。

7. Add bearing lubricating oil, use oil gun to add the lubricating oil until oil is

spilling from the spill port on the gland (When leave the factory, blower is already be added the bearing lubricating oil).

八、 检查电源的电压和频率；检查电缆线的连接；从皮带轮侧看主动轴回转方向为逆时针。

8. Inspect the voltage and frequency of power; Inspect the connection of cable wire; Look at the direction from the side of pulley belt , the rotating direction of driving shaft is in a counter-clockwise direction.

九、 用手转动皮带轮，确认风机转动无异常时方可用电力启动。

9. Turn round the pulley belt by hand, only if confirmed that no abnormal rotation, or else you can't start up the blower by electricity.

五、 风机运转注意事项

5. Important Notices of Blower Running

1、 运行初期由于润滑油的粘滞而有噪音和电流过高的情况，运行10-20分钟可自行消失。

1. At the beginning of running, due to the viscosity of lubricating oil, there will be have noise and over-current situation. It's will automatically disappear after running about 10-20 minutes.

2、 流量大小不能通过开关阀门来调整。

2. Flow quantity can't be adjusted by turn on/ off valve.

该风机是容积型压缩机，通过调整转速来改变流量和轴功率；关闭阀门，压力上升，风机超负荷运转，易被破坏。故通过改变转速或增设溢流管道来调整流量。

This blower is a volume compressor, through regulating the speed to change the flow quantity and shaft power; Shut-off valve, pressure rise, blower is running under the overload condition and easy to be damaged. So you shall change the speed or add a overflow tubing to adjust the flow quantity.

3、 风机应在规定压力下进行工作。超负荷运转风机受损，特别是电机
电流值要低于铭牌上的额定值，否则电机寿命降低。

3. Blower shall be running under the authorised pressure. Overload running will damage the blower. Especially that the motor current value shall be lower than the rated value, or else it's will reduce the motor's life span.

4、 压力表开关处于常闭状态，如需测定压力时可将压力表开关打开。

4. Pressure gauge switch shall be under the normal close condition, if you need to measuring the pressure, you can turn on it.

5、 同一机型噪音也有差异，因为风机在机械室内的位置及配管情况不同会造成噪音的差异。

5. Noise also has differences in the same model. Because the position of blower in the mechanical room and the difference tubing condition can cause the difference in noise.

6、 当风压超过 58.8Kpa 时，风机采用循环水冷却的方式降温，冷却水
压力 196-294Kpa，冷却水温度不大于 25℃。

6. When the wind pressure is more than 58.8Kpa, blower uses the circulating water to cooling. Pressure of cooling water is 196-294Kpa, temperature of

cooling water shall be not more than 25°C.

7、 冷却水用量, RTSR80 型—RTSR125 型, 用水量 5-8L/min;RTSR150 型—RTSR300 型, 用水量 8-13L/min.

7. Using quantity of cooling water , RTSR80 Type—RTSR125 Type, water consumption is 5-8L/min; RTSR150 Type -RTSR300 Type, water consumption is 8-13L/min.

8、 风机运行时, 先开冷却水, 停机时, 后关冷却水。

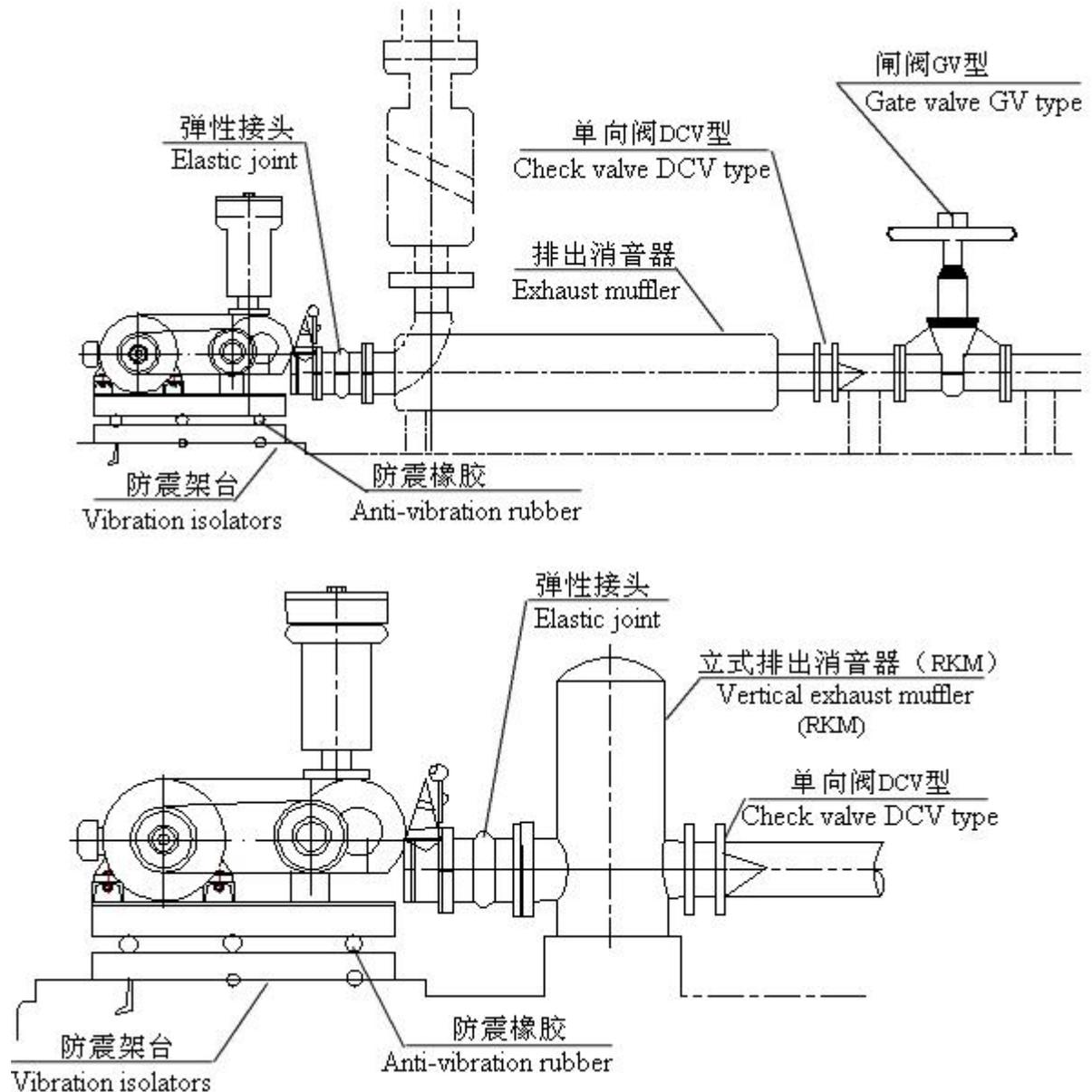
8. When turn on the blower, you shall open the cooling water first; When shut off the blower, you shall close the cooling water later.

9、 冬季风机长期不用时, 应放掉冷却水, 以免损坏风机。

9. In winter, if you are not use the blower for a long time, you shall let out the cooling water to avoid damage the blower.

六、 风机配管参考图

6. Reference Drawing of Blower Tubing



Note: DCV type check valve must be installed on the horizontal tubing.

七、风机的保养与检修

7. Maintenance and Repair of Blower

1、 保养与检修时必须切断电源。

1. Maintenance and repair the blower must be cut off the power.

2、 请不要擅自分解、修理、改造本鼓风机，若风机出现故障，请与经销商联系，有专门的维修人员进行修理。

2. You can't break down, maintenance and reform the blower without authorization by yourself. If the blower is failure, please contact to the distributor and then they will dispatch a dedicated maintenance personnel to repair.

保 养 ※ 检 修

Maintenance ※ Repair

保养检修内容 Maintenance & Repair Content	检修周期 Repair Period				备注 Remark
	日常 Daily	1 个月 One month	1 年 One year	3-4 年 3-4 years	
压力 Pressure	▲				铭牌值以下 Below the Nameplate Rating
流量 Flow Quantity	▲				铭牌值 10%以内 Within 10% of Nameplate Rating
噪音 Noise	▲				无异常噪音 No Abnormal Noise
振 动 Vibration	▲				无异常振动 No Abnormal Vibration
吸入温度 Suction Temperature	▲				40℃ 以下 Below 40℃
电 流 Current	▲				电机铭牌值以下 Below the Motor Nameplate Rating
电 压 Voltage	▲				电机铭牌值 10%以内 Within 10% of Motor Nameplate Rating
皮带张力※皮带轮偏正 Belt Tension※Pulley Belt Offset	▲				
齿轮油量 Gear Oil Capacity	▲	▲			加至油标中心位置 Add the Oil to the Center of Oil Gauge
清扫空气滤清器 Clean Air Filter		▲			
检查齿轮油 Inspect Gear Oil		▲			补充或更换 Make-up Oil or Change Oil
检查轴承润滑脂 Inspect Bearing Lubricating Grease		▲			补充或更换 Make-up Lubricating Grease or Change Lubricating Grease
更换 V 皮带 Change V Belt			▲		
更换滤清器滤芯 Change Filter Element			▲		
更换轴承 Change Bearing				▲	
更换垫片※油封 Change Washer※Oil Seal				▲	
检查更换齿轮 Inspect and Change Gear				▲	

(1) 润滑油※润滑脂牌号

(1) Lubricating Oil ※Lubricating Grease Trademark

	润滑油牌号 Lubricating Oil Trademark	润滑脂牌号 Lubricating Grease Trademark
指定牌号 Specified Trademark	环境温度 20℃ 以下用 N68,20℃ 以上用 N220 中负荷齿轮油 Environment temperature is below 20℃, use N68; Above 20℃,use N220 middle load gear oil 以上用 N220 中负荷齿轮油 Above them,use N220 middle load gear oil	ZL-3H 合成锂基润滑脂 ZL-3H Synthesis of lithium-based lubricating grease
推荐牌号 Recommended Trademark	N68N100N150 中负荷齿轮油 N68N100N150 middle load gear oil	ZL-3 必须是纯正的锂基润滑脂 ZL-3 must be the pure lithium-based lubricating grease

注：最初运行时，齿轮油在使用一个月后必须更换。

Note: At the beginning of running, Gear oil must be changed after one month used.

①N220 中负荷工业齿轮油 ※ ②ZL-3H 合成锂基润滑脂

①N220 Industrial middle load gear oil ※ ②ZL-3H Synthesis of lithium-based lubricating grease

运动粘度: mm²/S(40℃): 198-242 ※针入度 (1/10mm): 220-250

Kinematic Viscosity: mm²/S (40℃)198-242 ※Needle Penetration (1/10mm):220-250

闪点 (不低于): 200℃ ※滴点 (大于或等于): 190℃

Flash point (Not less than): 200℃ ※Dropping Point (Greater than or equal to):190℃

(2) 润滑油※润滑脂量

(2) Lubricating oil ※ Lubricating Grease Quantity

※表中润滑油量仅为参考，停止加油时油面位于油标中心。

※Lubricating grease quantity in the table are only used for reference. When stop fueling, oil level shall be placed at the center of oil gauge.

※有两个润滑脂加入口。

※ There have two lubricating grease fillers.

风机型号 Blower Model	RTSR-50、 65	RTSR-80、100	RTSR-125	RTSR-150	RTSR-17 5	RTSR-20 0	RTSR-25 0	RTSR-300
润滑油 Lubricating Oil	0.52L	0.78L	1.6L	2.1L	3.0L	13L	13L	13L
润滑脂 Lubricating Grease	10g/每孔 10g/per hole	15g/每孔 15g/per hole	23g/每孔 23g/per hole	30g/每孔 30g/per hole	/每孔 /per hole	45g/每孔 45g/per hole	/	/

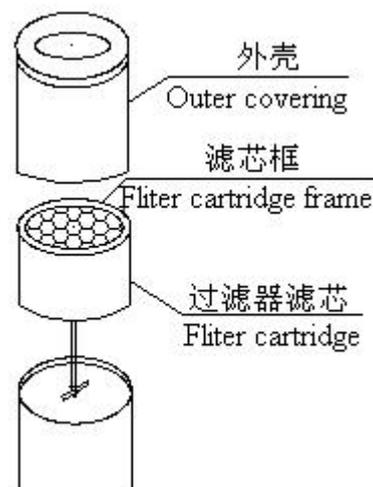
(3) 吸入消声器的检修

(3) Maintenance the suction muffler

打开消音器外壳，露出滤芯，清扫或清洗过滤器及滤芯

Open the muffler shell, and expose the filter cartridge. Clean or wash the filter and filter cartridge.

风机型号 Blower Model	内径 × 高度 Inside Diameter × Height
RTSR-50	110 × 80
RTSR-65	135 × 90
RTSR-80	160 × 120
RTSR-100	185 × 150
RTSR-125	210 × 220
RTSR-150	240 × 300
RTSR-175	
RTSR-200	320 × 450
RTSR-250	400 × 500
RTSR-300	450 × 600



(4) 风机和电机定中心

(4) Centering of Blower and Motor

如图所示，可以通过尺子或绳子进行测量。

As shown in the figure, you can measure them by ruler or rope.



八、安全阀 使用说明

8. Safety Valve Instructions

(1) 使用上的注意事项

(1) Important notice for use

因为要求该安全阀在低压下工作，所以阀座与阀体的接触面是经过精密加工的，如果有异物附着在阀座周围，阀体动作时，异物就会被吸附到接触面上，由此形成阀体泄露的原因。另外，请注意安全阀在搬运过程中是否收到冲击，这也是造成阀体泄露的原因。

Because this safety valve shall be working on the low pressure condition, so the contact surface between valve seat and valve body shall be precision finishing. If have any foreign matter around the valve seat, when the valve body is running, the foreign matter will be adsorbed on the contact surface. This is the reason contribute to the leakage of valve body. In addition, please pay attention to whether have any impact during the transportation. This is also the reason contribute to the leakage.

(2) 安全阀的设定方法

(2) Setting method of safety valve

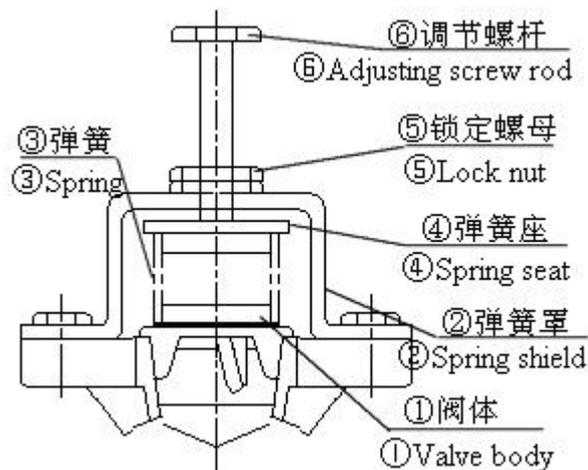
原理：当负荷超过安全阀的设定压力时，安全阀开启，由此防止风

机故障。

Principle: When load is higher than the setting pressure of safety valve, safety valve will be started up automatically to avoid the malfunction of blower.

设定方法:

Setting method:



① 启动风机。

① Start up blower

② 一边观察压力表一边旋紧闸阀，使压力超过设定压力的 10% 左右。

② Observe the pressure gauge and tighten the gate valve at the same time to setting the pressure higher than 10% of setting pressure.

③ 松开锁定螺母，按逆时针方向旋转调节螺杆。直至从安全阀排出空气为止。

③ Loose the lock nut, revolving the adjusting screw from the counter-clockwise direction until the air is discharged from the safety

valve.

④ 若在旋紧闸阀的过程中，尚未达到设定压力，安全阀已排出空气，请再一次按顺时针方向调节螺杆，直至旋至不再排出空气为止，再逆时针方向旋转，恰好在排出空气为止（顺时针旋转，设定压力变高；逆时针旋转，设定压力变低）。

④ During the tighten process of gate valve, if not reach to the setting pressure, but safety valve is already discharged the air, now please adjust the screw again from the clockwise direction until the air is not discharged, and then revolving it from the counter-clockwise direction until the air is just can be discharged (Clockwise rotation, the setting pressure is step up; Counter-clockwise rotation, the setting pressure is step down).

⑤ 旋紧锁定螺母和调节螺杆。

⑤ Tighten the lock nut and adjusting screw.

⑥ 松开闸阀，降低压力，使安全阀不再排气。

⑥ Release the gate valve to decrease the pressure, to let the safety valve not discharge the air any more.

⑦ 检查安全阀是否在设定压力下工作，再次旋紧闸阀提高压力。

注意：实际在排气侧有负荷时（曝气槽内达到既定水位），若闸阀全开时，设定压力比实际负荷高 10%左右。

⑦ Inspect that whether the safety valve is working under the setting pressure, and then tighten the gate valve again to increase the pressure.

Note: When have the load on the side of exhaust port (Aerator tank reach to the given water level), if the gate valve is full opened, the setting pressure will be higher than the actual load about 10%.

九、※※※ 风机常见故障、原因、排除措施 ※※※

9. ※※※ Common Problems, Failure Cause and Remedy ※※※

故障 Malfunction		原因 Failure Cause	措施 Remedy	
风机 Blower	不转 No rotation	用手能正反转 Foreward or reverse rotaion by hand	维修或更换电机 Maintenance or change the motor	
		用手不能转 Can't rotaion by hand	转子堵住 Rotor is blocked up	拆开修理 Dismantle to repair
			内含杂物 Containing the sundries	拆开修理 Dismantle to repair
	转 Rotation	异常声或振动 Abnormal sound or vibration	打滑、V型带太紧或太松 Slipping, V belt is too tight or too loose	调整V型带的张力 Adjust the tension of V belt
			皮带轮不正 Belt pulley is not correct	调整皮带轮 Adjust the belt pulley
			皮带轮与皮带罩摩擦 Belt pulley rubs against the belt cover	调整皮带罩 Adjust the belt cover
			轴承油缺乏或老化 Lack of bearing oil or aging	重新换油 Change the oil
			齿轮油缺乏或老化 Lack of gear oil or aging	重新换油 Change the oil
			安全阀漏气 Air leakage of safety valve	调整安全阀 Adjust the safety valve
			地基强度不够 Subgrade is not strong enough	加强地基强度 Strengthen the subgrade
			管道共鸣 Tubing resonance	通过消音器、支架消除 Eliminated through muffler and bracket
			排气压力突然上升 Exhaust pressure is rising abruptly	见*注释 See*Note
			地脚螺栓太松 Foundation bolt is too loose	拧紧 Screwed up
			转子干扰 Rotor interference	拆开修理 Dismantle to repair
机壳内有杂物 Have sundries inside the machine	拆开修理 Dismantle to repair			

		逆止阀坏 Check valve is damage	更换 Change it
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故障 Malfunction		原因 Failure Cause	措施 Remedy	
风机 Blower	转 Rotation	过热 Overheat	排气压力突然上升 Exhaust pressure is rising abruptly	见*注释 See*Note
			机房内温度超过 40℃ Temperature in motor room is exceed to 40℃	增加通风量 Increase the ventilation
			吸入吸音器阻塞 Sound absorber is blocked	清洗/更换过滤器 Clean/change filter
		气流不足 Airflow is not enough	管道漏气 Tubing leakage	拧紧接口 Screw up the connector
			吸入消音器阻塞 Sound absorber is blocked	清洗/更换过滤器 Clean/change filter
			安全阀漏气 Safety valve leakage	调整安全阀 Adjust safety valve
			V 型带打滑 V belt is slipping	调整 V 型带的张力 Adjust the tension of V belt
			排气压力突然上升 Exhaust pressure is rising abruptly	见*注释 See*Note
		排气压力突然上升 Exhaust pressure is rising abruptly	阀门关闭 Valve close	充分打开阀门 Fully open the valve
			水位上升 Water level is rising	调整水位 Adjust the water level
			进气管堵塞 Intake tube is blocked	清除杂物 Clean up the sundries
			管道堵塞 Tubing is blocked	清除杂物 Clean up the sundries
			阀门坏或拧反方向 Valve is damaged or screwed up to the opposite direction	更换或反方向拧 Change it or tighten it to the opposite direction
			气流过强 Air flow is too strong	降低转速或排气 Decrease the rotating speed or air exhaust
		漏油 Oil leakage	齿轮油过多 Gear oil is too much	加油至油标中央 Oil filling to the center of the oil gauge

故障 Malfunction		原因 Failure Cause	措施 Remedy	
电机 Motor	不转 No rotation	用手能正反转 Foreward or reverse rotaion by hand	开关或线路连接不良 Switch or circuitry is poor connection	正确连接或检修 Making the right connections or overhauling
		用手不能转 Can't rotaion by hand	保险丝没连或单根线 Fuse is not connected or single wire	检查修理或更换 Maintenance or change it
			电源异常 Power abnormal	改善供电设施 Improve the power supply facilities
			电机坏 Motor is damage	修理或更换电机 Maintenance or change the motor
		反转 Reverse rotation	轴承坏 Bearing is damage	更换轴承 Change the bearing
			电机坏 Motor is damage	修理或更换电机 Maintenance or change the motor
	连接错误 Connection error		检查接头 Check the connector	
	转 Rotation	过热 Overheat	过载 Over-load	调整排气压 Adjust the exhaust pressure
			电源异常 Power abnormal	改善供电设施 Improve the power supply facilities
			机房内温度超过 40℃ Temperature in motor room is exceed to 40℃	增加通风量 Increase the ventilation
		转速过低 Rotation speed is too low	电源异常 Power abnormal	改善供电设施 Improve the power supply facilities
过载 Over-load	调整排气压 Adjust the exhaust pressure			

十、 售后服务及修理事项

10. After Service and Repair

1、 在正常使用情况下，发生故障时，自产品出厂 1 年内无偿保修!

但在下列情况下，为有偿修理;

1.Under the normal condition, if the machine is broke down, we provide one year free warranty to you since the products leaving the factory.

But in the following condition, you shall pay to repair:

①保修期内用户自己维修过，又发生的故障。

① During the warranty date, users are already repaired the machine by themselves, and then the machine is broke down again.

②使用不当，非本公司的指定专业维修人员进行修理，或自行改造机器发生的故障。

② Improper use, the malfunction is caused by the professional maintenance staff which are not designated by our company or maintenance the machine by users themselves.

③自然灾害引起的故障。

③ Malfunction is caused by the natural hazards.

④未按本说明书要求进行维护和保养造成的故障。

④ Repair and maintenance are not according to this specification.

⑤使用了非本公司制定标准部品造成的故障。

⑤ Malfunction is caused by the standard parts which are not produced by our company.

⑥易损件的更换。

⑥ Replace the wearing part.

⑦不属于设计或制造不良。

⑦ Not belong to poor design or manufacture.

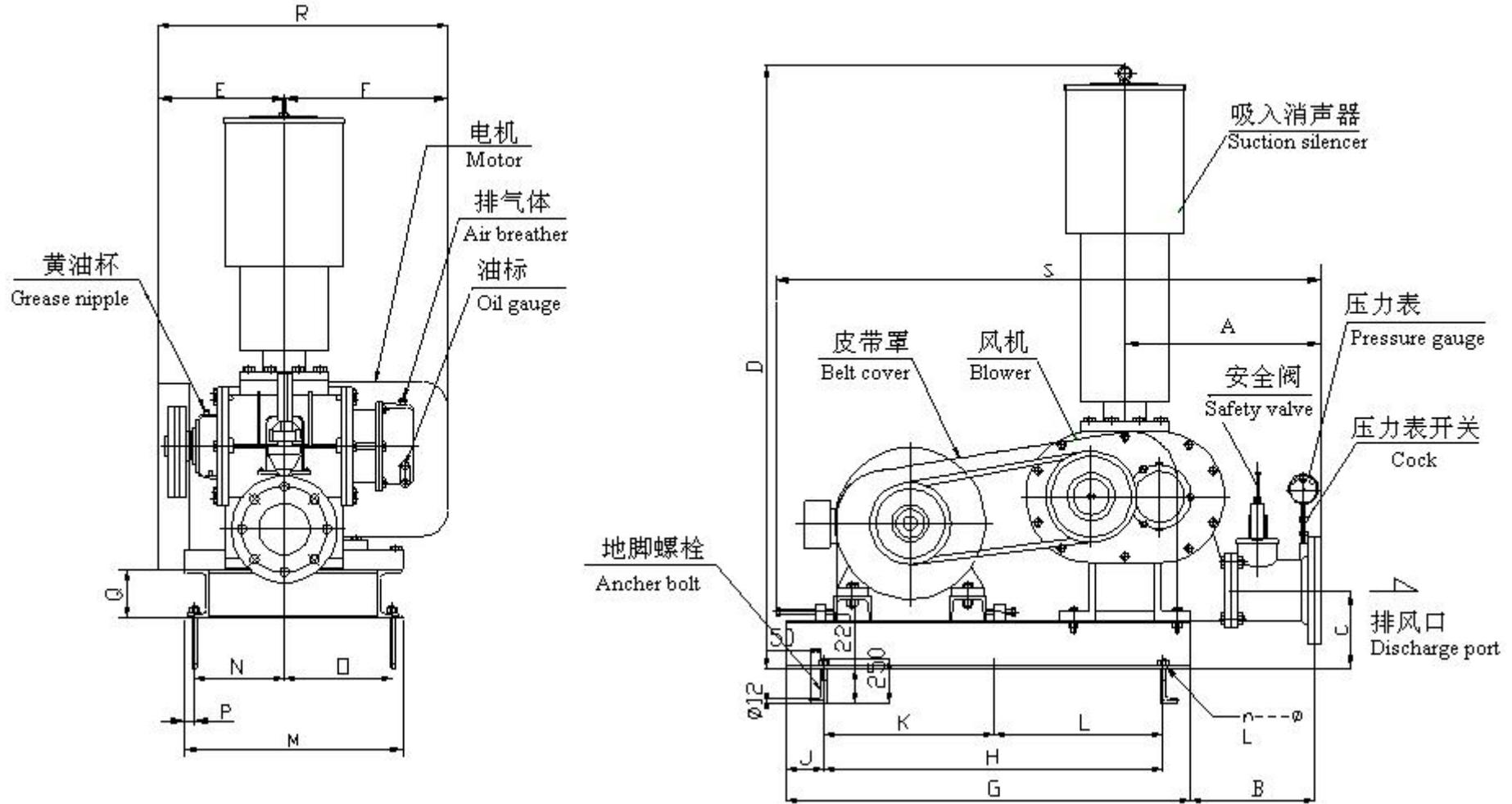
2、 风机发生故障时请您先与订货的代理店联系，并将产品的型式、编号、购入日期告诉对方。按风机铭牌填写下表，以便修理查阅。

2. When the blower is broken down, please contact to the distributors and then tell the model, serial number, purchase date to them. In order to repair conveniently, please according to the blower's nameplate to fill out the following table.

型式 Model	
制造编号 Manufacturing No.	
轴功率 Shaft Power	
转速 Rotating Speed	
压力 Pressure	
出厂日期 Manufacturing Date	
客户名称 Customer Name	

十一、型三叶罗茨鼓风机尺寸图 (皮带传动)

11.Dimension Drawing of Three-lobe Roots Blower (Belt Driving)



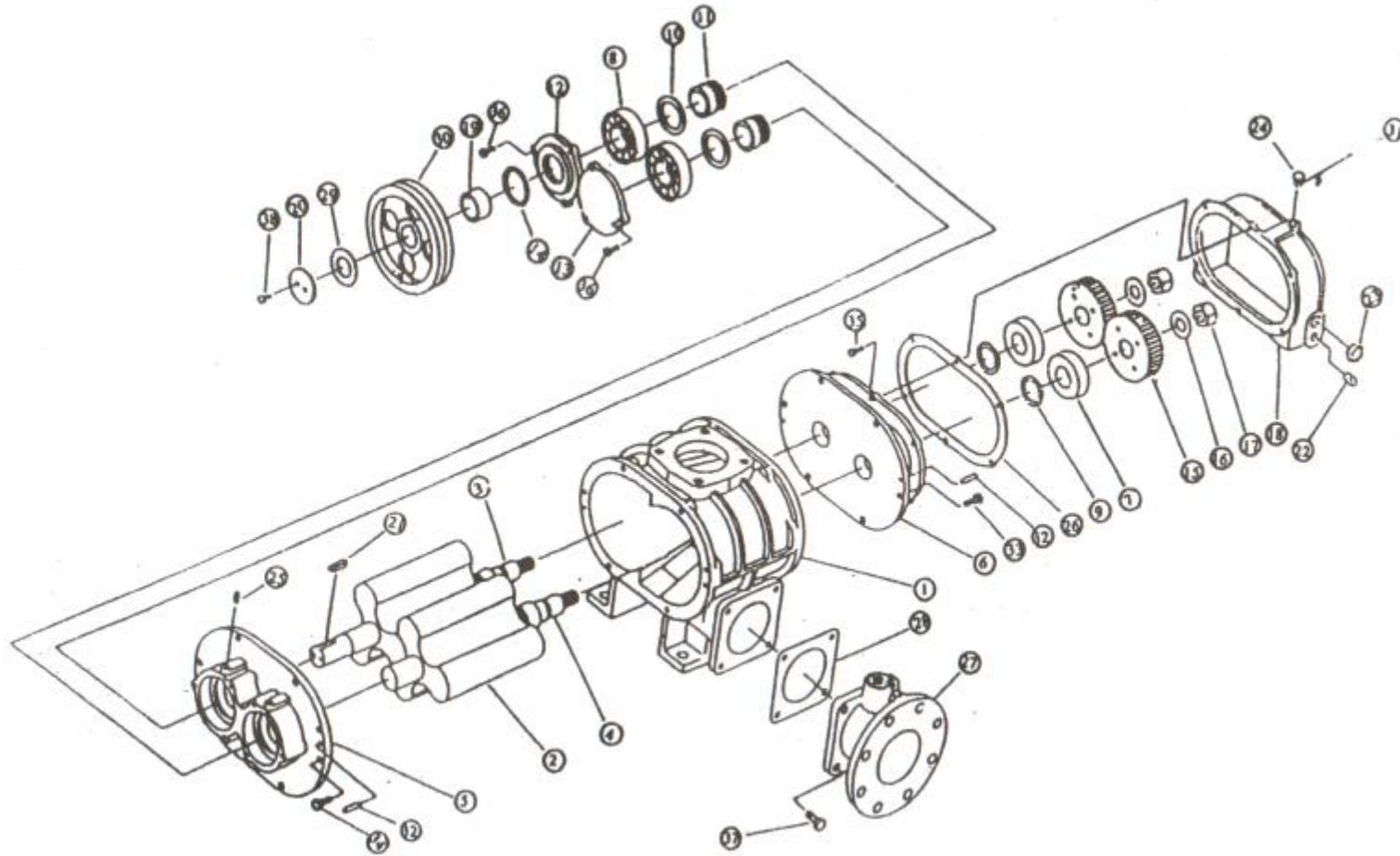
记号 Mark 型式 Model	口径 Caliber	A	B	C	D	E	F	G	H	J	K
RSRT-50	50A	270	170	120	750	200	190	560	410	75	-
RSRT-65	65A	270	170	130	860	220	200	600	450	75	-
RSRT-80	80A	305	195	150	1130	220	225	650	500	75	-
RSRT-100	100A	305	195	160	1255	260	265	730	580	75	-
RSRT-125	125A	345	195	190	1360	270	270	860	700	80	350
RSRT-150	150A	387	220	210	1630	375	377	960	750	80	400
RSRT-175	150A	387	220	210	1630	450	450	1060	750	125	400
RSRT-200	200A	490	275	260	2210	480	500	1280	1000	140	500
RSRT-250	250A	640	280	380	2650	725	575	1900	1500	200	750
RSRT-300	300A	640	280	395	2820	820	695	1900	1500	200	750

记号 Mark 型式 Model	口径 Caliber	L	M	N	O	P	Q	n	R	S	重量 Weight (kg)
RSRT-50	50A	-	300	115	155	15	80	4	450	730	70
RSRT-65	65A	-	340	135	175	15	80	4	500	780	81
RSRT-80	80A	-	360	125	205	15	80	4	530	860	126
RSRT-100	100A	-	470	155	285	15	80	4	600	930	157
RSRT-125	125A	350	470	150	290	15	100	6	710	1060	235
RSRT-150	150A	350	590	245	305	20	100	6	860	1200	394
RSRT-175	150A	350	770	320	410	20	100	6	920	1320	620
RSRT-200	200A	500	755	335	380	20	126	6	1080	1600	860
RSRT-250	250A	750	950	510	390	25	160	6	1165	2250	1653
RSRT-300	300A	750	950	605	295	25	160	6	1166	2250	2132

Note: Weight in the table are not including the motor

十二、 风机展开图

14. Extension Drawing of Blower



序名 No.	名称 Name	材料 Material	数量 PCS	备注 Remark	序名 No.	名称 Name	材料 Material	数量 PCS	备注 Remark
1	机壳 Machine cover	HT200	1		20	端盖 End cover	Q235A	1	
2	叶轮 Impeller	HT200	1		21	平键 Flat key	45	1	
3	主动轴 Driving shaft	40cr	1		22	丝堵 Plug	35	1	
4	从动轴 Driven shaft	40cr	1		23	油标 Oil gauge		1	
5	驱端侧板 Driving side plate	HT200	1		24	排气体 Exhaust gas		1	
6	齿端侧板 Gearing side plate	HT200	1		25	黄油杯 Grease cup		2	
7	轴承 Bearing	SUJ2	2	进口件 Imported	26	齿轮箱垫片 Gear case washer	青稞纸 Highland barley paper	1	
8	轴承 Bearing	SUJ2	2	进口件 Imported	27	T型风口接管 T type air port adapt	HT200	1	
9	齿端密封圈 Gearing seal ring	丁腈胶 NBR	2		28	出口风垫片 Air outlet port washer	石棉 Asbestos	1	
10	驱端密封圈 Driving seal ring	丁腈胶 NBR	2		29	垫圈 Washer	Q235A	1	
11	轴承套筒 Bearing sleeve	45	2		30	风机带轮 Blower pulley		1	
12	主动轴承压盖 Driving bearing cover	HT200	1		31	O型密封圈 O type seal ring			GB1235-86
13	从动轴承压盖 Driven bearing cover	HT200	1		32	圆锥销 Taper bolt	45	1	
14	Z型密封圈 Z type seal ring	丁腈胶 NBR	1		33	六角头螺栓 Hexagon headed bolt			
15	齿轮 Gear	35CrMo	2		34	六角头螺栓 Hexagon headed bolt			
16	平垫 Flat washer		2		35	六角头螺栓 Hexagon headed bolt			
17	U型螺母垫 U type nut washer		2		36	六角头螺栓 Hexagon headed bolt		6	
18	齿轮箱 Gear box	HT200	1		37	六角头螺栓 Hexagon headed bolt		4	
19	轴套 Axle sleeve	45	1		38	六角头螺栓 Hexagon headed bolt		2	

