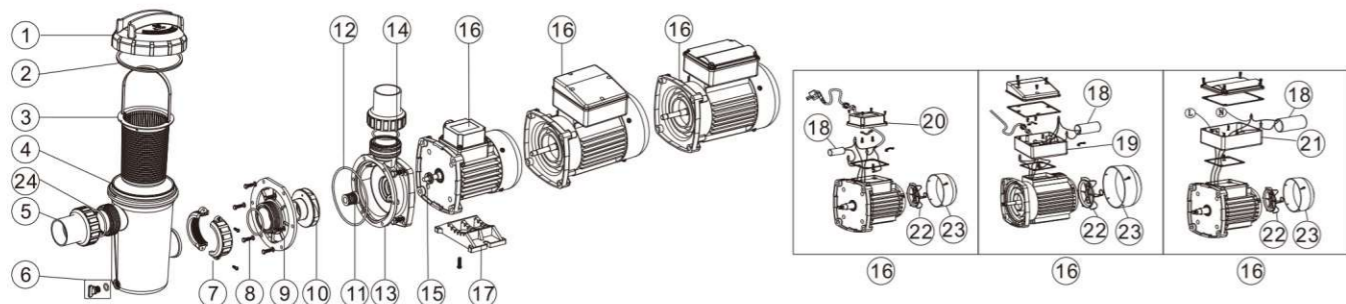
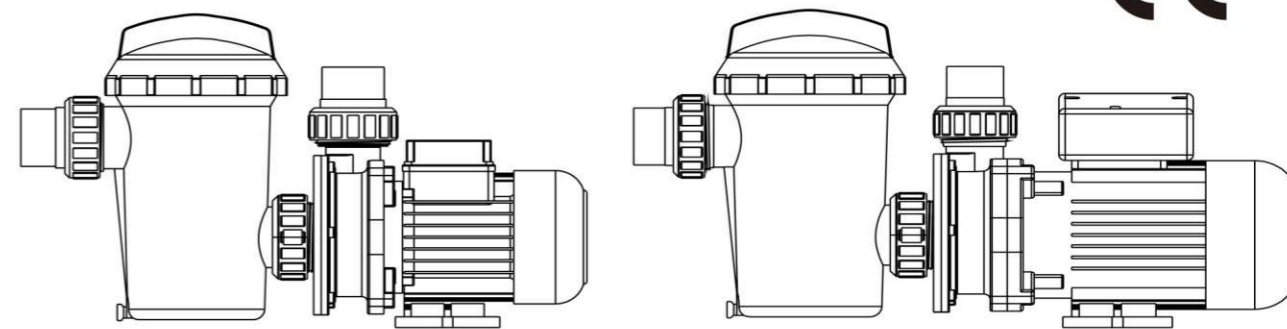


PUMP PARTS FOR SD SD水泵组件图



项目	部件编号	中文	产品资料/说明	数量	项目	部件编号	中文	产品资料/说明	数量
Key No.	Part No.	Chinese	Product Description	Qty	Key No.	Part No.	Chinese	Product Description	Qty
1	01041043	透明盖	Transparent Lid	1	16	89022105	SD050 (220V/50Hz) 电机	Motor SD050 (220V/50Hz)	1
2	02011077	透明盖密封圈	O-Ring for lid	1		89022106	SD075 (220V/50Hz) 电机	Motor SD075 (220V/50Hz)	1
3	89021701	过滤篮连手挽	Basket with Handle	1		89022107	SD100 (220V/50Hz) 电机	Motor SD100 (220V/50Hz)	1
4	01021061	SD泵清水桶	SD Pump Pre-filter	1		89022108	SD120 (220V/50Hz) 电机	Motor SD120 (220V/50Hz)	1
5	89280105	1.5"活接	1.5" union	2		89022201	SD020 (220V/60Hz) 电机	Motor SD020 (220V/60Hz)	1
6	89021307	扭制连胶圈	Drain Plug With O-ring	1		89022202	SD033 (220V/60Hz) 电机	Motor SD033 (220V/60Hz)	1
7	89022102	夹扣螺母连螺丝	Inter-locking nut with Screw	1		89022203	SD050 (220V/60Hz) 电机	Motor SD050 (220V/60Hz)	1
8	89022103	M5*16外六角螺丝连垫片	M5*16 Screw for pump front with Washer	6		89022204	SD075 (220V/60Hz) 电机	Motor SD075 (220V/60Hz)	1
9	01021046	SD泵盖	SD Pump body cover	1		89022205	SD100 (220V/60Hz) 电机	Motor SD100 (220V/60Hz)	1
	01311015	SD020 (220V/50Hz) 水叶	Impeller SD020 (220V/50Hz)	1		89022206	SD120 (220V/60Hz) 电机	Motor SD120 (220V/60Hz)	1
	01311016	SD033 (220V/50Hz) 水叶	Impeller SD033 (220V/50Hz)	1		89022305	SD020 (110V/60Hz) 电机	Motor SD020 (110V/60Hz)	1
	01311017	SD050 (220V/50Hz) 水叶	Impeller SD050 (220V/50Hz)	1		89022306	SD033 (110V/60Hz) 电机	Motor SD033 (110V/60Hz)	1
	01311018	SD075 (220V/50Hz) 水叶	Impeller SD075 (220V/50Hz)	1		89022301	SD050 (110V/60Hz) 电机	Motor SD050 (110V/60Hz)	1
	01311019	SD100 (220V/50Hz) 水叶	Impeller SD100 (220V/50Hz)	1		89022302	SD075 (110V/60Hz) 电机	Motor SD075 (110V/60Hz)	1
	01311020	SD120 (220V/50Hz) 水叶	Impeller SD120 (220V/50Hz)	1		89022303	SD100 (110V/60Hz) 电机	Motor SD100 (110V/60Hz)	1
	01311023	SD020 (220V/60Hz) 水叶	Impeller SD020 (220V/60Hz)	1		89022304	SD120 (110V/60Hz) 电机	Motor SD120 (110V/60Hz)	1
	01311024	SD033 (220V/60Hz) 水叶	Impeller SD033 (220V/60Hz)	1	17	89022101	底座连M5*20圆头机丝	Base with M5*20 Screw	1
	01311015	SD050 (220V/60Hz) 水叶	Impeller SD050 (220V/60Hz)	1		04016028	SD050水泵电容	Capacitor for SD050 Pump	1
	01311016	SD075 (220V/60Hz) 水叶	Impeller SD075 (220V/60Hz)	1		04016019	SD075水泵电容	Capacitor for SD075 Pump	1
	01311017	SD100 (220V/60Hz) 水叶	Impeller SD100 (220V/60Hz)	1		04016021	SD100水泵电容	Capacitor for SD100 Pump	1
	01311018	SD120 (220V/60Hz) 水叶	Impeller SD120 (220V/60Hz)	1		04016009	SD050水泵电容	Capacitor for SD050 Pump	1
	01311023	SD020 (110V/60Hz) 水叶	Impeller SD020 (110V/60Hz)	1		04016010	SD075水泵电容	Capacitor for SD075 Pump	1
	01311024	SD033 (110V/60Hz) 水叶	Impeller SD033 (110V/60Hz)	1		04016012	SD100水泵电容	Capacitor for SD100 Pump	1
	01311015	SD050 (110V/60Hz) 水叶	Impeller SD050 (110V/60Hz)	1		04016032	SD020水泵电容	Capacitor for SD020 Pump	1
	01311016	SD075 (110V/60Hz) 水叶	Impeller SD075 (110V/60Hz)	1		04016033	SD033水泵电容	Capacitor for SD033 Pump	1
	01311017	SD100 (110V/60Hz) 水叶	Impeller SD100 (110V/60Hz)	1		04016030	SD020水泵电容	Capacitor for SD020 Pump	1
	01311018	SD120 (110V/60Hz) 水叶	Impeller SD120 (110V/60Hz)	1		04016031	SD033水泵电容	Capacitor for SD033 Pump	1
11	04015033	1/2"机械密封	1/2" Mechanical seal	1	19	89022112	SD050-SD120水泵接线盒	Cable Box for SD050-SD120 Pump	1
12	02011076	胶圈	O-Ring for pump body	1	20	89022111	SD020-SD033水泵接线盒	Cable Box for SD020-SD033 Pump	1
13	01021024	SD泵泵体	SD Pump body	1	21	89021505	SD050-SD120水泵接线盒	Cable Box for SD050-SD075 Pump	1
14	89022104	M8*25外六角螺丝连垫片	M8*25 Screw with Washer for motor	4	22	01031027	SD050-SD120水泵电机风扇	Cooling fan for SD050-SD120 Pump	1
15	02011156	电机止水胶垫	Motor Slinger	1	23	01031026	SD020-SD033水泵电机风扇	Cooling fan for SD020-SD033 Pump	1
	89022109	SD020 (220V/50Hz) 电机	Motor SD020 (220V/50Hz)	1		01031011	SD020-SD033电机尾罩	Fan Cover for SD020-SD033 Pump	1
	89022110	SD033 (220V/50Hz) 电机	Motor SD033 (220V/50Hz)	1		01031010	SD050-SD120电机尾罩	Fan Cover for SD050-SD120 Pump	1

**SD Series Centrifugal Pump
Installation & Operating Instructions
SD系列离心式水泵安装及操作说明**



INSTALLATION 安装说明

Only qualified, licensed personnel should install pump and wiring.
只有经过培训鉴定合格的电工人员才能对水泵进行安装和配线。

IMPORTANT ELECTRICAL

Electrical Contractors Please Note: EMAUX pumps must be wired to the main power supply through an approved and correctly rated contactor.

电源安装提示

施工单位请注意：意万仕水泵电源布线必须通过专业的电力安装单位认可。

Pump Mount Must:

- ❖ Be solid Level Rigid Vibration Free.
- ❖ Allow use of short, direct suction pipe. (To reduce friction losses & don't install the pump at more than 3M geometrical height from water level)
- ❖ Allow for gate valves in suction and discharge piping.
- ❖ Have adequate floor drainage to prevent flooding.
- ❖ Be protected from excess moisture.
- ❖ All adequate access for servicing pump and piping.

NOTICE:

Pump suction and discharge connections have moulded in thread stops, **DO NOT** try to screw pipe in beyond these stops.

安装水泵注意事项:

- ❖ 必须在一块坚硬平坦的表面位置安装。
 - ❖ 使用一个简短而直接管道系统(减少水流量的损失)，水泵安装的位置不能高于水面3米。
 - ❖ 在进水口和出水口各安装一个阀门。
 - ❖ 机房位置的排水系统良好。
 - ❖ 防止机房过于潮湿。
 - ❖ 为便于检修水泵和管道，机房必须预留足够的空间。
- 注意：水泵的进水口及出水口与水管相连接的接头扭紧即可，不能扭太紧。

OPERATION 操作简介

- ⚠ **NEVER** run pump dry! Running pump dry may damage seals, causing leakage and flooding! Fill pump with water before starting motor.
- ⚠ Before removing lid:
STOP PUMP before proceeding.
CLOSE GATE VALVES in suction and discharge pipes.
RELEASE ALL PRESSURE from pump and piping system.
NEVER tighten or loosen screws while pump is operation.
- ⚠ Do not block pump suction! To do so with body may cause severe or fatal injury. Children using pool must **ALWAYS** have close adult Supervision!
- ⚠ 水泵内没有水, 请勿启动。否则会损坏轴密封, 导致水泵漏水或水浸。在启动电机前, 确保泵内的水已注满。
- ⚠ 打开螺母面盖前, 应该注意:
 - 关闭水泵的电源。
 - 关闭进水口和出水口的阀门。
 - 排出水泵和水管内的气压。
 - 当水泵运行时, 不能松紧水泵的螺丝。
- ⚠ 游泳者不要阻塞泳池的排水口, 这会导致伤害或死亡。小孩游泳时必须由成人监管。

Priming Pump:

- ❖ Release all air from filter and piping system: see filter owner manual.
- ❖ In a flooded suction system (water source higher than pump), pump will prime itself when suction and discharge valves are opened.
- ❖ If pump is not in a flooded suction system, unscrew and remove trap cover; fill trap and pump with water.
- ❖ Clean and inspect Ring; re-install on trap cover.
- ❖ Replace trap cover on trap; turn clockwise to tighten cover.

NOTICE: Tighten trap cover by hand only.

Pump should prime now. Priming time will depend on vertical length of suction lift and horizontal length of suction piping.

启动水泵:

- ❖ 排放所有来自过滤器和管道系统内的空气, 参阅过滤器的用户手册。
 - ❖ 当泳池的水位高于水泵的位置时, 打开进水口和出水口的阀门, 启动水泵。
 - ❖ 如果泳池的水位低于水泵的位置时, 打开面盖, 注满泵内的水后才再启动。
 - ❖ 清洁和检查密封圈, 再放回面盖。
 - ❖ 放上面盖后, 顺时针方向旋转拧紧面盖。
- 注意: 扭紧螺母面盖只能用手(或扳手), 必要时才用扳手。

ROUTINE MAINTENANCE 保养程序

The only routine maintenance needed is inspection/cleaning of trap basket. Debris or trash that collects in basket, will choke off water flow through the pump. Follow instructions below to clean trap:

- 1) Stop pump, close gate valve in suction and discharge, and release all pressure from system before proceeding.
- 2) Unscrew trap lid (turn counterclockwise).
- 3) Remove strainer basket and clean. Be sure all holes in basket are clear, flush basket with water and replace in trap with large opening at pipe connection port (between ribs provided). If basket is replaced backwards cover will not fit on trap body.
- 4) Clean and inspect lid Ring; reinstall on trap cover.
- 5) Clean Ring groove on trap body and Replace lid. To help keep lid from sticking, tighten hand tight only.
- 6) Prime pump (see priming instructions above)

常规的保养就是检查和清洁隔水器。垃圾或碎屑聚积于隔水器的滤水篮, 会堵塞流入水泵的水。清理步骤如下:

- 1) 关闭水泵的电源和进水口、出水前的阀门, 排出各系统内的气压。
- 2) 扭开面盖
- 3) 取出隔水器的滤水篮清洗干净, 保证滤水篮的每个空隙都是清洁的, 再将滤水篮放进桶内并注满水, 这个桶在进水处有一个极大的开口, 如果滤水篮放置不当, 和桶身就不能吻合。
- 4) 清洁和检查透明盖的密封圈, 再装上桶盖。
- 5) 清洁密封圈的周边后装回原处。
- 6) 启动水泵(参阅水泵的启动程序)。

CAUTION
危险



Hazardous suction.
Can trap hair or body part, causing severe injury or death. Do not block suction.

请勿阻塞进水口, 避免发生意外。

SERVICE & REPAIR PARTS 维修和配件的更换

Refer all service to your local agent or dealer as his knowledge of your equipment makes him the best qualified source of information. Order all repair parts through your dealer. Give the following information when ordering repair parts:

- 1) Unit nameplate data or serial number on label.
- 2) Description of part.

向当地代理商或经销商索取设备的技术资料, 这些资料能证明授权资格的真实性。向代理商订购所需的维修配件, 订购配件时需提供下面的资料:

- 1) 设备标示牌的数据或产品编号。
- 2) 部件名称。

TROUBLE SHOOTING 故障分析

MOTOR DOES NOT START

- 1) Disconnect switch or circuit breaker in off position
- 2) Fuses blown or thermal overload open
- 3) Locked motor shaft
- 4) Motor windings burned out
- 5) Defective starting switch inside single phase motor
- 6) Disconnected or defective wiring
- 7) Low voltage

马达不能启动

- 1) 电源断开或断路器。
- 2) 保险丝熔断或机件过热。
- 3) 轴承卡死。
- 4) 马达线圈烧坏。
- 5) 过流保护或热保护。
- 6) 电线连接不好或损坏。
- 7) 电压不足。

PUMP DOES NOT REACH FULL SPEED

- 1) Low voltage
- 2) Pump connected for wrong voltage

水泵未达到最佳状态

- 1) 电压不足。
- 2) 电源与水泵电压不符。

MOTOR OVERHEATS (protector trips)

- 1) Low voltage
- 2) Motor windings connected for wrong voltage on dual voltage model
- 3) Inadequate ventilation

马达过热

- 1) 电压不足。
- 2) 工作电压与电机电压不符。
- 3) 通风环境不佳。

PUMP DELIVERS NO WATER

- 1) Pump is not primed
- 2) Closed valve in suction or discharge line
- 3) Leakage or air into suction system
- 4) Impeller clogged

水泵不能抽水

- 1) 水泵没有启动。
- 2) 进水或出水阀门关闭。
- 3) 管道系统无水或空气进入。
- 4) 水叶损坏。

LEAKAGE OF WATER AT SHAFT

- 1) Shaft seal requires replacement
- 漏水**
1) 更换密封圈。

LOW PUMP CAPACITY

- 1) Valve in suction or discharge line partly closed
 - 2) Suction or discharge line partly plugged
 - 3) Suction or discharge line too small
 - 4) Plugged basket in skimmer or hair and lint strainer
 - 5) Dirty filter
 - 6) Impeller clogged
- 水泵在低性能下运行**
1) 进水或出水管的阀门未完全开启。
2) 进水或出水管部分堵塞。
3) 进水管或出水管太细。
4) 头发或杂物淤积于滤水篮。
5) 过滤器沉积物太多。
6) 水叶被阻塞。

HIGH PUMP PRESSURE

- 1) Discharge valve or inlet fittings closed too much
 - 2) Return lines too small
 - 3) Dirty filters
- 水泵压力过大**
1) 进水管或出水管的阀门未完全开启。
2) 回水管太细。
3) 过滤器沉积物太多。

NOISY PUMP AND MOTOR

- 1) Plugged basket in skimmer or hair in lint strainer
- 2) Worn motor bearings
- 3) Valve in suction line partly closed
- 4) Suction line partly plugged
- 5) Vacuum hose plugged or too small
- 6) Pump not supported properly

水泵和马达噪音

- 1) 头发或杂物淤积于滤水篮。
- 2) 电机轴承损坏。
- 3) 进水管阀门未完全开启。
- 4) 进水管部分堵塞。
- 5) 吸污口堵塞或太细。
- 6) 水泵工作不正常。

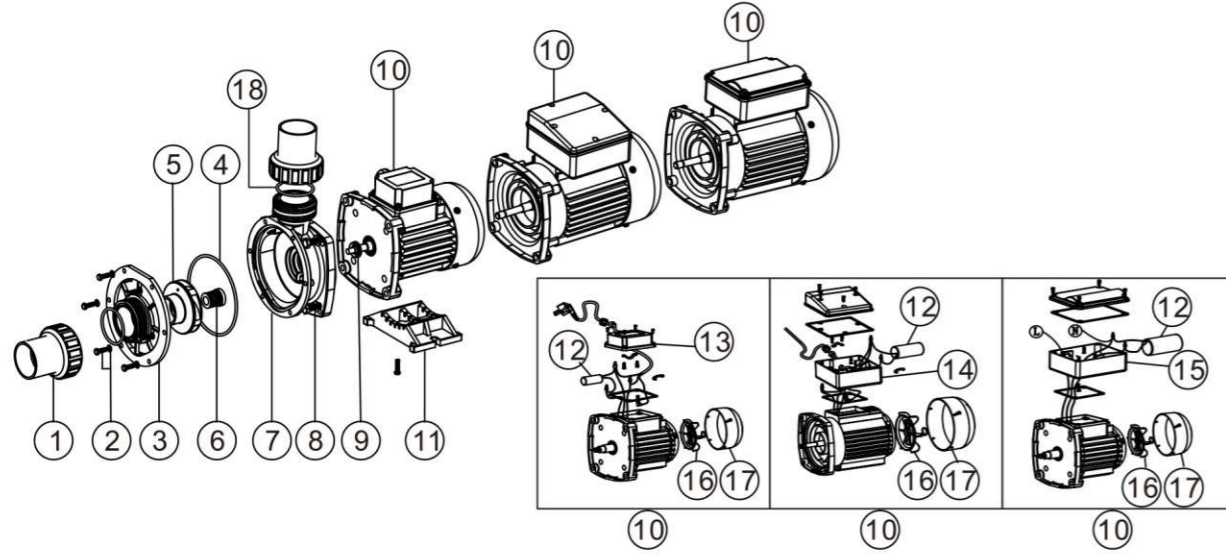
AIR BUBBLES AT INLET FITTINGS

- 1) Leakage of air into suction line at connections or valve stem
 - 2) Cover gasket of hair and lint strainer needs cleaning
 - 3) Low water level in pool
- 空气进入管道**
1) 空气通过接合部位或阀门进入进水管。
2) 须清理滤水篮内的头发及杂物。
3) 泳池的水位低。

NOTE: If the recommendations in the trouble shooting portion of this manual do not solve your particular problem(s), please contact your local dealer for service.

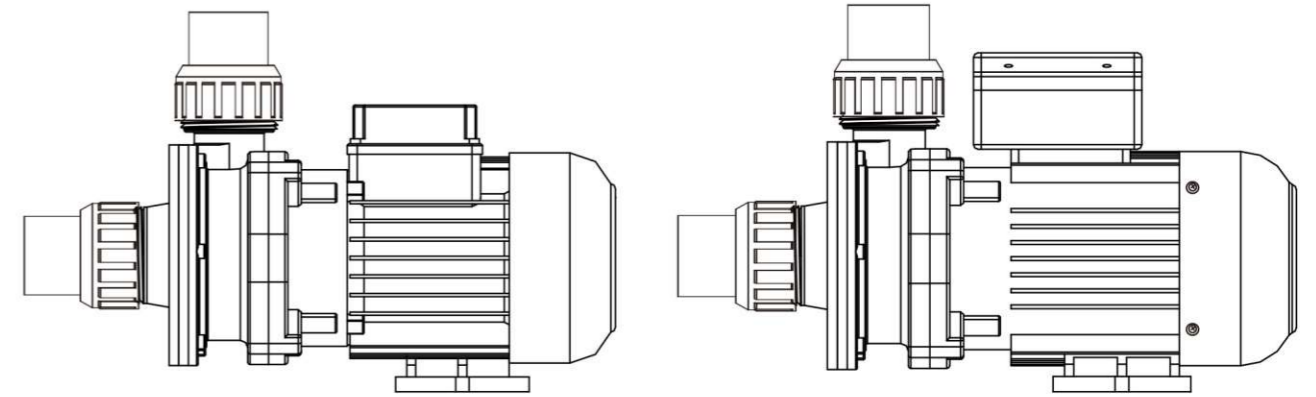
备注: 如果说明书中的故障分析仍不能解决您产品的问题, 请与当地经销商联系。

Pump parts for ST ST水泵组件图



项目	部件编号	中文	产品资料/说明	数量	项目	部件编号	中文	产品资料/说明	数量
Key No.	Part No.	Chinese	Product Description	Qty	Key No.	Part No.	Chinese	Product Description	Qty
1	89280105	1.5"活接	1.5" union	2	10	89022201	ST020 (220V/60Hz) 电机	Motor ST020 (220V/60Hz)	1
2	89022103	M5*16外六角螺丝连垫片	M5*16 Screw for pump front with Washer	6	10	89022202	ST033 (220V/60Hz) 电机	Motor ST033 (220V/60Hz)	1
3	01021046	ST泵盖	ST Pump body cover	1	10	89022203	ST050 (220V/60Hz) 电机	Motor ST050 (220V/60Hz)	1
4	02011076	胶圈	O-Ring for pump body	1	10	89022204	ST075 (220V/60Hz) 电机	Motor ST075 (220V/60Hz)	1
5	01311015	ST020 (220V/50Hz) 水叶	Impeller ST020 (220V/50Hz)	1	10	89022205	ST100 (220V/60Hz) 电机	Motor ST100 (220V/60Hz)	1
	01311016	ST033 (220V/50Hz) 水叶	Impeller ST033 (220V/50Hz)	1	10	89022206	ST120 (220V/60Hz) 电机	Motor ST120 (220V/60Hz)	1
	01311017	ST050 (220V/50Hz) 水叶	Impeller ST050 (220V/50Hz)	1	10	89022305	ST020 (110V/60Hz) 电机	Motor ST020 (110V/60Hz)	1
	01311018	ST075 (220V/50Hz) 水叶	Impeller ST075 (220V/50Hz)	1	10	89022306	ST033 (110V/60Hz) 电机	Motor ST033 (110V/60Hz)	1
	01311019	ST100 (220V/50Hz) 水叶	Impeller ST100 (220V/50Hz)	1	10	89022301	ST050 (110V/60Hz) 电机	Motor ST050 (110V/60Hz)	1
	01311020	ST120 (220V/50Hz) 水叶	Impeller ST120 (220V/50Hz)	1	10	89022302	ST075 (110V/60Hz) 电机	Motor ST075 (110V/60Hz)	1
	01311023	ST020 (220V/60Hz) 水叶	Impeller ST020 (220V/60Hz)	1	10	89022303	ST100 (110V/60Hz) 电机	Motor ST100 (110V/60Hz)	1
	01311024	ST033 (220V/60Hz) 水叶	Impeller ST033 (220V/60Hz)	1	10	89022304	ST120 (110V/60Hz) 电机	Motor ST120 (110V/60Hz)	1
5	01311015	ST050 (220V/60Hz) 水叶	Impeller ST050 (220V/60Hz)	1	11	89022101	底座连M5*20固定螺丝	Base with M5*20 Screw	1
	01311016	ST075 (220V/60Hz) 水叶	Impeller ST075 (220V/60Hz)	1	12	04016028	ST050水泵电容	Capacitor for ST050 Pump	1
	01311017	ST100 (220V/60Hz) 水叶	Impeller ST100 (220V/60Hz)	1	12	04016019	ST075水泵电容	Capacitor for ST075 Pump	1
	01311018	ST120 (220V/60Hz) 水叶	Impeller ST120 (220V/60Hz)	1	12	04016021	ST100水泵电容	Capacitor for ST100 Pump	1
	01311023	ST020 (110V/60Hz) 水叶	Impeller ST020 (110V/60Hz)	1	12	04016009	ST050水泵电容	Capacitor for ST050 Pump	1
	01311024	ST033 (110V/60Hz) 水叶	Impeller ST033 (110V/60Hz)	1	12	04016010	ST075水泵电容	Capacitor for ST075 Pump	1
	01311015	ST050 (110V/60Hz) 水叶	Impeller ST050 (110V/60Hz)	1	12	04016012	ST100水泵电容	Capacitor for ST100 Pump	1
	01311016	ST075 (110V/60Hz) 水叶	Impeller ST075 (110V/60Hz)	1	12	04016032	ST020水泵电容	Capacitor for ST020 Pump	1
	01311017	ST100 (110V/60Hz) 水叶	Impeller ST100 (110V/60Hz)	1	12	04016033	ST033水泵电容	Capacitor for ST033 Pump	1
	01311018	ST120 (110V/60Hz) 水叶	Impeller ST120 (110V/60Hz)	1	12	04016030	ST020水泵电容	Capacitor for ST020 Pump	1
6	04015033	1/2"机械密封	1/2" Mechanical seal	1	12	04016031	ST033水泵电容	Capacitor for ST033 Pump	1
7	01021024	ST泵泵体	ST Pump body	1	13	89022111	ST020-ST033水泵接线盒	Cable Box for ST020-ST033 Pump	1
8	89022104	M8*25外六角螺丝连垫片	M8*25 Screw with Washer for motor	4	14	89022112	ST050-ST120水泵接线盒	Cable Box for ST050-ST120 Pump	1
9	02011156	电机止水胶垫	Motor Slinger	1	15	89021505	ST050-ST120水泵接线盒	Cable Box for ST050-ST075 Pump	1
10	89022109	ST020 (220V/50Hz) 电机	Motor ST020 (220V/50Hz)	1	16	01031027	ST050-ST120水泵电机风扇	Cooling fan for ST050-ST120 Pump	1
	89022110	ST033 (220V/50Hz) 电机	Motor ST033 (220V/50Hz)	1	16	01031026	ST020-ST033水泵电机风扇	Cooling fan for ST020-ST033 Pump	1
	89022105	ST050 (220V/50Hz) 电机	Motor ST050 (220V/50Hz)	1	17	01031011	ST020-ST033电机尾罩	Fan Cover for ST020-ST033 Pump	1
	89022106	ST075 (220V/50Hz) 电机	Motor ST075 (220V/50Hz)	1	17	01031010	ST050-ST120电机尾罩	Fan Cover for ST050-ST120 Pump	1
	89022107	ST100 (220V/50Hz) 电机	Motor ST100 (220V/50Hz)	1	18	02011104	胶圈	O-Ring	2
	89022108	ST120 (220V/50Hz) 电机	Motor ST120 (220V/50Hz)	1					

ST & STA Series Pump
ST & STA 系列说明书



Before installation, be sure to read all instructions and warnings carefully.
Refer to product data plate(s) for additional operating instruction and specifications.
安装前请仔细阅读以下规则。
查阅产品资料袋内的附加安装说明。

INSPECTION 产品的验收

Examine the equipment when received. Notify your dealer or carrier of any damage or missing parts. Verify that equipment is of size and model specified.

收货时请查验清楚，如有任何产品破损或配件遗失，请立即通知供应商或货运公司。核实产品是否合乎型号和规格。

IMPORTANT SAFETY INSTRUCTIONS 安全使用说明

When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

- 1) READ AND FOLLOW ALL INSTRUCTIONS.
- 2) WARNING — To reduce risk of injury, do not permit children to use this product unless they are closely supervised at all times.
- 3) WARNING — (For cord & plug connected units) risk of electric shock. Connect only to a grounding type receptacle protected by a ground-fault circuit-interrupter(GFCI). Contact a qualified electrician if you cannot verify that the receptacle is protected by a GFCI.
- 4) WARNING — (For cord & plug connected units). To reduce the risk of electric shock, replace damaged cord immediately.
- 5) WARNING — (For cord & plug connected units). To reduce the risk of electric shock do not use an extension cord to connect unit to electric supply; Provide a properly located outlet.
- 6) WARNING — (For hot tub and spa pumps). Do not install within an outer enclosure or beneath the skirt of the hot tub or spa, unless so marked.
- 7) SAVE THESE INSTRUCTIONS

当安装设备时，应采取基本的安全预防措施，具体如下：

- 1) 阅读和遵循所有的规则。
- 2) 警告：为避免伤害，儿童在无成人监管的情况下，不得使用该产品。
- 3) 警告：为避免触电。配电线路应连接拉接一个漏电保护器。如果不能确定用何种漏电保护器，请向有资格证的电工咨询。
- 4) 警告：（适用电线和插座）为避免触电，必须立刻更换破损的电线。
- 5) 警告：（适用电线和插座）为避免触电，不要使用破旧的电线与电源连接，应提供一个合适的固定插座。
- 6) 警告：水泵不能安装于浴缸或按摩池的底部或裙边的外围地方。
- 7) 请妥善保存这份手册。

INSTALLATION LOCATION 安装位置

Locate pump as close to pool/spa as possible, preferably in a dry, well ventilated area away from direct sunlight. it should be on a hard, level surface. Give consideration to:

- 1) Drainage — away from pump
- 2) Ventilation of pump motor
- 3) Access for future servicing and winterizing
- 4) Protection from the elements

Pumps without strainer bodies are designed for flooded suction (all suction fittings and suction piping below water level) and will not self-prime. Consequently, the pump must be installed at an elevation that is below water level when pool or spa is filled.

水泵的安装位置应尽可能靠近浴缸和按摩池, 保持干爽、通风和避免阳光直接照射, 并放在坚固而平坦的位置上。建议如下:

- 1) 排水位置远离水泵。
- 2) 马达通风环境良好。
- 3) 预留位置方便维修。
- 4) 防止浸水。

没有隔发器的水泵是为喷射系统设计的(所有系统的装置和水管在水平线以下), 不能自行启动。当水泵安装的位置必须在水平线以下, 同时注满浴缸和按摩池的水, 才能启动。

GENERAL PLUMBING 管道安装

FOR SOLVENT WELD CONNECTION 溶剂接合指引

Rigid or flexible PVC pipe can be used. Pipe ends should be clean and free of any flash caused by the cutting operation. Be sure that the proper solvent is used on type of pipe specified. PVC材料的硬管和软管都可使用, 在剪裁管道时, 管的切割面应是光洁的, 并要使用适合的溶剂接合。

Caution: We recommend that consider climatic conditions when applying adhesives, make the adhesive action of certain glues less effective. Check the manufacturer's instructions.

提示: 我们建议在使用胶水接合时, 注意温度变化对胶水的影响, 确定选用的胶水受温度变化的影响, 也可根据生产商的说明书选择。

PUMP PLUMBING 水泵管道

Suction pipe should be as large or large than discharge pipe avoid using a suction pipe smaller than pump connection.

Keep the piping as straight and short as possible, and of suitable size. Avoid connecting an elbow directly into the pump inlet(use a length of straight pipe to allow a proper entry for the water).arrange horizontal runs to slope upward to the pump to prevent high spots that could form air pockets. Support the piping independently so that it places no strain on the pump. Keep as much of the suction line as possible below the water level to reduce priming time.

选择合适的水管, 水管要尽可能简短直接, 并且合乎尺寸。为缩短水泵的启动时间, 进水管与水泵的接头位置尽可能低于水位。

ELECTRICAL DATA 马达数据

Refer to information on motor nameplate for electrical service data. All motors should have fused disconnect switch or circuit breaker. Be sure wire size is sufficient for pump hp and distance from power source. Wiring should be done in accordance with applicable codes by a competent electrician.

参考马达资料牌上提供的数据, 所有马达都有保险丝熔断和断路装置。保证电线的规格适合水泵的功率和长度。布线应由电工根据有关规定来完成。

PUMP START UP 水泵的起动

Do not operate pump until it has been primed as water acts to cool and lubricate the seal. For pumps without strainer bodies and located above water, close suction line valve and fill pump with water in order to prime. If no flow is observed in five minutes, stop the motor and re-prime. If the pump fails to operate, check for air leaks. Refer to trouble shooting section.

直到水进入水泵内, 密封部位被冷却和润滑时, 才能启动水泵。如果水泵没有隔发器和位于水位之上, 应关闭进水管的阀门, 注满泵内的水后才能启动。如果在5分钟之内还没有看见水流出, 就要关掉马达重新启动。如果水泵仍不能启动, 须检查是否有空气进入。(参照故障分析部分)

PUMP MAINTENANCE 水泵的保养

- 1) Motors are self-lubricating no lubrication required.
- 2) Shaft seals may become worn and must be replaced if leakage is observed.
- 1) 马达可自行润滑, 不用加润滑剂。
- 2) 如果发现漏水现象, 轴密封损坏, 必须更换轴密封。

SERVICE & REPAIR PARTS 维修和更换配件

Refer all service to your local dealer as his knowledge of your equipment makes him the vest qualified source of information. Order all repair parts through your dealer. Give the following information when ordering repair parts:

- 1) Unit nameplate data.
 - 2) Description of part.
- 向当地的代理或经销商索取设备的技术资料, 这些资料能证明授权资格的真实性。向代理商定购所需的维修配件, 定购配件时需提供下面的资料:
- 1) 设备标示牌的数据资料。
 - 2) 部件名称。

TROUBLE SHOOTING 故障分析

MOTOR DOES NOT START

马达不能启动

- 1) Disconnect switch or circuit breaker in off position
- 2) Fuses blown or thermal overload open
- 3) Locked motor shaft
- 4) Motor windings burned out
- 5) Defective starting switch inside sing phase motor
- 6) Disconnected or defective wiring
- 7) Low voltage
- 1) 电源断开或断路。
- 2) 保险丝熔断或机件过热。
- 3) 转轴卡死。
- 4) 叶轮损坏卡死。
- 5) 轴承损坏。
- 6) 电线连接不好或损坏。
- 7) 电压不足。

NOISY PUMP AND MOTOR

水泵和马达噪音

- 1) Worn motor bearings
- 2) Suction line partly plugged
- 1) 电机轴承损坏。
- 2) 进水管部分堵塞。

MOTOR OVERHEATS

马达过热

- 1) Low voltage
- 2) Inadequate ventilation
- 1) 电压不足。
- 2) 通风环境不佳。

AIR BUBBLES AT INLET FITTINGS

空气进入管道

- 1) Leakage of air into suction line at connections or valve stem
- 2) Low water level in drain of bath
- 1) 空气通过接合部位或阀门进入进水管。
- 2) 浴缸的水位低于回水口。

NOTE: If the recommendations in the trouble shooting portion of this manual do not solve your particular problem(s), please contact your local dealer for service.

备注: 如果说明书中的故障分析仍不能解决您产品的问题, 请与当地经销商联系。

LOW PUMP CAPACITY

水泵低性能运行

- 1) Suction or discharge line partly plugged
- 2) Suction or discharge line too small
- 3) Pump running at reduced speed
- 4) Impeller clogged
- 1) 进水管或出水管的阀门未完全开启。
- 2) 进水管或出水管部分堵塞。
- 3) 进水管或出水管太细。
- 4) 水叶被阻塞。

HIGH PUMP PRESSURE

水泵压力过大

Return lines too small
回水管道太细。

PUMP DOES NOT REACH FULL SPEED

水泵未达到最佳状态

- 1) Low voltage.
- 2) Pump connected for wrong voltage.
- 1) 电压不足。
- 2) 电源与水泵电压不符。

PUMP DELIVERS NO WATER

水泵不能抽水

- 1) Pump is not primed
- 2) Leakage or air into suction system
- 3) Impeller clogged
- 1) 水泵没有启动。
- 2) 漏水或有空气进入管道。
- 3) 水叶损坏。

LEAKAGE OF WATER AT SHAFT

密封位置漏水

Shaft seal requires replacement
更换密封圈。