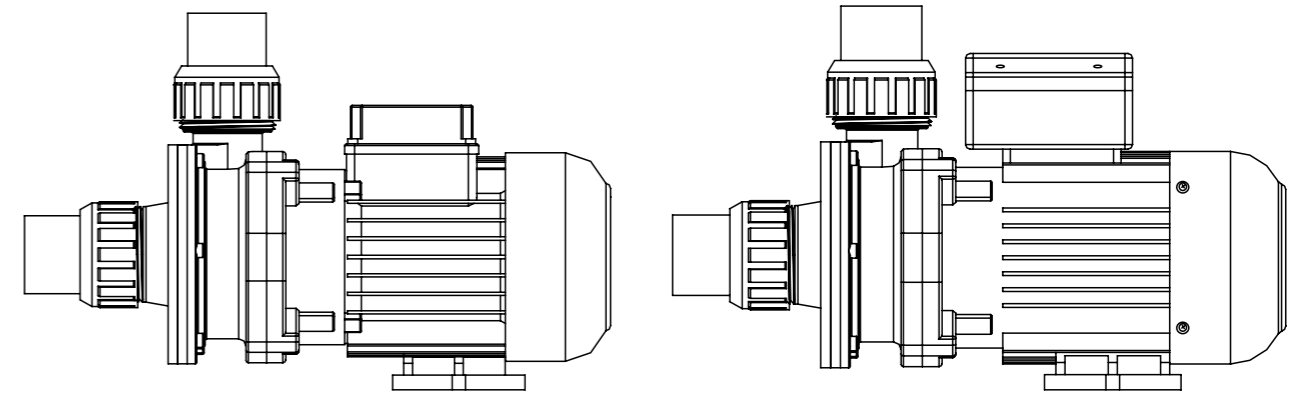


**PUMP PARTS FOR ST**

Key No.	Part No.	Description	Qty
1*	89280105	1.5"union (Black/ White Colour)	2
2	89022103	M5*16 Screw for pump front with Washer	6
3	01021046	ST SD Pump Body Cover	1
4	02011076	O-Ring for Pump Body	1
5	01311015	Impeller SD020/SD50/SQ20/SQ50/SS20/SS50/ST20/ST50	1
5	01311016	Impeller SD33/SD75/SQ33/SQ75/SS33/SS75/ST33/ST75	1
5	01311017	Impeller SD050/SD100/SQ050/SQ100/SS050/SS100/ST050	1
5	01311018	Impeller SD075/SD120/SQ075/SQ120/SS075/SS120/ST075	1
5	01311019	Impeller SD100/SQ100/SS100/ST100(220V/50HZ)	1
5	01311014	Impeller SS120(220V/50HZ)	1
5	01311023	Impeller SD020/SQ020/SS020/ST020(220V,110V/60HZ)	1
5	01311024	Impeller SD033/SQ033/SS033/ST033(220V,110V/60HZ)	1
6	04015033	1/2" Mechanical Seal	1
7	01021024	SD SQ ST Pump Body	1
8	89022104	M8 x 25 Screw with Washer for Motor	4
9	02011156	Motor Slinger	1
10	89022109	Motor SD020/SQ020/SS020/ST020(220V/50HZ)	1
10	89022110	Motor SD033 (220V/50Hz)	1
10	89022105	Motor SD050/SQ050/SS050/ST050(220V/50HZ)	1
10	89022106	Motor SD075/SQ075/SS075/ST075(220V/50HZ)	1
10	89022107	Motor SD100/SQ100/SS100/ST100(220V/50HZ)	1
10	89022108	Motor SD120/SQ120/SS120/ST120(220V/50HZ)	1
10	89022201	Motor SD/SQ/SS/ST020(220V/60HZ)	1
10	89022202	Motor SD/SQ/SS/ST033(220V/60HZ)	1
10	89022203	Motor SD/SQ/SS/ST050(220V/60HZ)	1
10	89022204	Motor SD/SQ/SS/ST075(220V/60HZ)	1
10	89022205	Motor SD/SQ/SS/ST100(220V/60HZ)	1
10	89022206	Motor SD/SQ/SS/ST120(220V/60HZ)	1
10	89022305	Motor SD/SQ/SS/ST020(110V/60HZ)	1
10	89022306	Motor SD/SQ/SS/ST033(110V/60HZ)	1
10	89022301	Motor SD/SQ/SS/ST050(110V/60HZ)	1
10	89022302	Motor SD/SQ/SS/ST075(110V/60HZ)	1
10	89022303	Motor SD/SQ/SS/ST100(110V/60HZ)	1
10	89022304	Motor SD/SQ/SS/ST120(110V/60HZ)	1
11	89022101	Base with M5 x 20 Screw	1
12	04016028	Capacitor for SS/SD/SQ/ST050 Pump 110V	1
12	04016019	Capacitor for SC050 & SS/SD/SQ/ST075 Pump 110V	1
12	04016021	Capacitor for SC075 & SS/SD/SQ/ST100-124 Pump 110V	1
12	04016009	Capacitor for SS/SD/SQ/SP/ST050 Pump	1
12	04016010	Capacitor for SS/SD/SQ/SP/ST075 & SC050 Pump	1
12	04016012	Capacitor for SS/SD/SQ/SP/ST100-120	1
12	04016032	Capacitor for SS/SD/SQ/ST020 Pump 110V	1
12	04016033	Capacitor for SS/SD/SQ/ST033 Pump 110V	1
12	04016030	Capacitor for SS/SD/SQ/ST020 AMU020P/TP(50/60Hz)	1
12	04016031	Capacitor for SS/SD/SQ/ST033 Pump	1
13	89022111	Cable Box for SQ/ST/SD020-033, SS020-SS030 Pump	1
14	89022112	Cable Box for SD, SQ, SP, ST050-120 Pump	1
15	89021505	Cable Box for ST050-ST075 Pump (110V/60HZ)	1
16	01031027	Cooling fan for SS/SD/SQ/ST050-SS/SD/SQ/ST120 Pump	1
16	01031026	Cooling fan for SS/SD/SQ/ST020-SS/SD/SQ/ST030 Pump	1
17	01031011	Fan Cover for SS/SD/SQ/ST020-SS/SD/SQ/ST030 Pump	1
17	01031010	Fan Cover for SQ/SP/SS/SD/ST050-SQ/SP/SS/SD/ST120	1
18	02011104	O-Ring for 1.5" Union	2

Notes: 1\* 89280105B is 1.5" union in Black Colour  
1\* 89280105W is 1.5" union in White Colour

**ST & STA Series Pump**



Before installation, be sure to read all instructions and warnings carefully.  
Refer to product data plate(s) for additional operating instruction and specifications.

**INSPECTION**

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.

**IMPORTANT SAFETY INSTRUCTIONS**

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

### INSTALLATION LOCATION

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.

### GENERAL PLUMBING

#### FOR SOLVENT WELD CONNECTION

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.

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

#### PUMP PLUMBING

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.

#### ELECTRICAL DATA

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.

#### PUMP START UP

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.

### PUMP MAINTENANCE

- 1) Motors are self-lubricating no lubrication required.
- 2) Shaft seals may become worn and must be replaced if leakage is observed.

### SERVICE & REPAIR PARTS

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.

### TROUBLE SHOOTING

#### 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 sing phase motor
- 6) Disconnected or defective wiring
- 7) Low voltage

#### Noisy pump and motor

- 1) Worn motor bearings
- 2) Suction line partly plugged

#### Motor overheats

- 1) Low voltage
- 2) Inadequate ventilation

#### Air bubbles at inlet fittings

- 1) Leakage of air into suction line at connections or valve stem
- 2) Low water level in drain of bath

#### Low pump capacity

- 1) Suction or discharge line partly plugged
- 2) Suction or discharge line too small
- 3) Pump running at reduced speed
- 4) Impeller clogged

#### High pump pressure

Return lines too small

#### Pump does not reach full speed

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

#### Pump delivers no water

- 1) Pump is not primed
- 2) Leakage or air into suction system
- 3) Impeller clogged

#### Leakage of water at shaft

Shaft seal requires replacement

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.