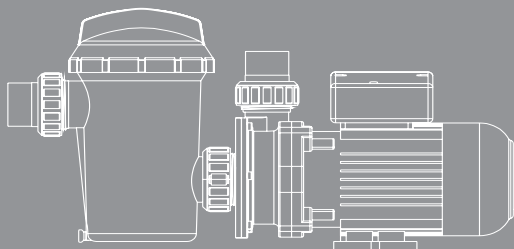




SD & SDUS Series / ST & STUS Series

Swimming pool pump



USER MANUAL



Model: SD & ST Series

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WARNINGS AND SAFETY INSTRUCTIONS

GENERAL WARNING

This instruction contain general caution information for use in Pool and SPA pump installation application. Specified Pump model function should be refer to particular manual. Components such as the filtration system, pumps and heater must be positioned so as to prevent their being used as means of access to the pool by young children.



RISK OF ELECTRICAL SHOCK

This appliance should be installed by qualified electrical personnel in accordance with National Electrical Code and all applicable local codes and ordinances. Hazardous voltage can shock, burn, and cause death or serious property damage. DO NOT use an extension cord to connect unit to electric supply to reduce the risk of electric shock.

1. The pump should be permanently connected to an individual circuit breaker.
2. Pump must be connected to a residual current device (RCD) having a rated residual operating current not exceeding 30 mA or receptacle with ground fault circuit interrupt (GCFI).
3. Electrical grounding must be connected before connecting to electrical power. Failure to ground all electrical equipment can cause serious or fatal electrical shock hazard.
4. Bonding: Use at least #8 AWG (#6 AWG for Canada) a solid copper conductor, run a continuous wire from external bonding lug (if available) to the pressure wire connector provided on the electrical equipment and to all metal parts of swimming pool, spa, or hot tub, and metal piping (except gas piping), and conduit within 1.5 m (5 ft) of inside walls of swimming pool, spa, or hot tub.
5. Never open the inside of the drive motor enclosure. There is a capacitor bank that holds a mains supply voltage charge even when there is no power to the unit. The voltage should be referred to the individual pump operation voltage.
6. The pump is capable of high flow rates; use caution when installing and programming to limit pumps performance only.
7. Switch OFF pump power before servicing and disconnecting the main circuit to the pump.
8. Never change the filter control valve position while the pump is running.



COMPRESS AIR HAZARDOUS

This system enclosed pre-filter / filter and become pressurized. Pressurized air can cause the Lid to separate which can result in serious injury or death.

STAND CLEAR OF PUMP DURING START-UP

Pool and spa circulation systems operate under high pressure. When any part of the circulating system (i.e. lock ring, pump, filter, valves, etc.) is serviced, air can enter the system and become pressurized. Filter tank Lid and pre-filter cover must be properly secured to prevent violent separation. Place pre-filter / filter air relief valve in the open position and wait for all pressure in the system to be relieved before remove the lib to access the basket for cleaning.



HYPERTHERMIA

SPA water temperature excess 38°C (104°F) may be injurious to health. Measure water temperature before entering SPA. Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 98.6 °F (37 °C). The symptoms of hyperthermia

include drowsiness, lethargy, and an increase in the internal temperature of the body.



SUCTION ENTRAPMENT HAZARD

This pump produces high levels of suction and creates a strong vacuum at the main drain at the bottom of your pool and spa. This suction is so strong that it can trap adults or children under water if they come in close proximity to a pool or spa drain or a loose or broken drain cover or grate.

The Virginia Graeme Baker (VGB) Pool and Spa Safety Act creates new requirements for owners and operators of commercial swimming Pools and spas.

Commercial pools or spas constructed on or after December 19, 2008, shall utilize:

1. A multiple main drain system without isolation capability with suction outlet covers that meet ASME/ANSI A112.19.8a Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs and either:
 - 1.1 A safety vacuum release system (SVRS) meeting ASME/ANSI A112.19.17 Manufactured Safety Vacuum Release systems (SVRS)
For Residential and Commercial Swimming Pool, Spa, Hot Tub, and Wading Pool Suction Systems and/or ASTM F2387 Standard
Specification for Manufactured Safety Vacuum Release Systems (SVRS) for Swimming pools, Spas and Hot Tubs or
 - 1.2 A properly designed and tested suction-limiting vent system or
 - 1.3 An automatic pump shut-off system.

Commercial pools and spas constructed prior to December 19, 2008, with a single submerged suction outlet shall use a suction outlet cover that meets ASME/ANSI A112.19.8a and either:

1. A SVRS meeting ASME/ANSI A112.19.17 and/or ASTM F2387, or
2. A properly designed and tested suction-limiting vent system, or
3. An automatic pump shut-off system, or
4. Disabled submerged outlets, or
5. Suction outlets shall be reconfigured into return inlets.

There are five types of suction entrapment according to The Virginia Graeme Baker (VGB) Pool and Spa Safety Act

1. **Body Entrapment** a section of the torso becomes entrapped
2. **Limb Entrapment** an arm or leg is caught by or pulled into an open drainpipe
3. **Hair Entrapment** or entanglement hair is pulled into and/or wrapped around the grate of the drain cover
4. **Mechanical Entrapment** the bather's jewelry or clothing gets caught in the drain or the grate
5. **Evisceration** the victim's buttocks come into contact with the pool suction outlet and he or she is disemboweled



TO REDUCE ENTRAPMENT HAZARD RISK



Two function suction outlets per pump must be installed to prevent entrapment. The minimum separate of suction on the same plate must be at least point to point measurement 1 meter (3ft) apart. It is used to avoid "dual blockage" by bather.

If suction is found damage, broken, cracked, missing or not securely attached during regular checking, shut down the pool and replace it immediately.

A vacuum release or vent system is recommended to install for suction entrapment release.

1. SD & SDUS, ST & STUS SERIES CENTRIFUGAL PUMP OVERVIEW

It is a low power, low noise and easy to maintenance self-priming pump for small residential in ground pool installation. SD and SDUS series Pre-filter with transparent Lid cover easy to observe the basket need to be clean or not.

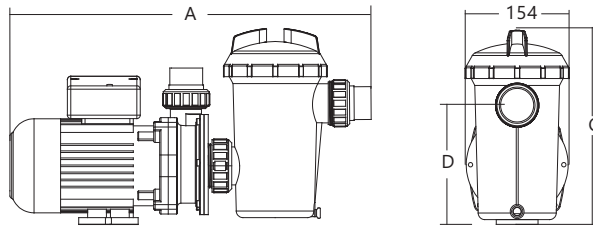
IPX5 aluminum motor enclosure design is good for outdoor deployment and heat dissipation.

There is built in thermal protection to protect the motor when fault operation cause motor over heat.

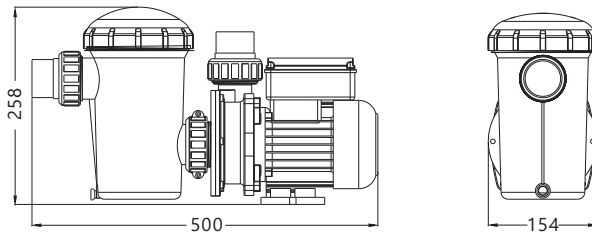
110Vac, 115Vac or 220Vac and 50Hz or 60Hz electrical power is available.

2. PRODUCT INFORMATION(SD & SDUS)

SD



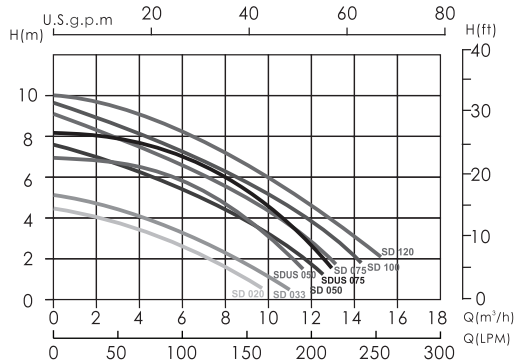
SDUS



Model 50Hz	Input (kW)	Current (AMP)	Noise (dB)	Head(m)			
				2	4	6	8
				FlowRate(m ³ /h)			
SD020	0.28	1.5	55	7	2	-	-
SD033	0.43	2	55	8.4	4	-	-
SD050	0.6	2.5	60	11.5	9	5	-
SD075	0.75	3.5	60	13	10	7	3
SD100	0.9	4.7	65	14	11	9	4
SD120	0.97	5.8	65	15.2	13	10	6.4

Code 220V/50Hz	Code 110V/60Hz	Code 115V/60Hz	Model	Connection Size	Horsepower	Weight (kg)	Capacitance 220V	Capacitance 110V	Capacitance 115V	A mm	C mm	D mm
88022101	88022301	/	SD020	1.5" / 50mm	0.2hp	6.2	5 μ F	20 μ F	/	510	278	167
88022102	88022302	/	SD033	1.5" / 50mm	0.33hp	6.5	6 μ F	24 μ F	/	510	278	167
88022103	88022303	/	SD050	1.5" / 50mm	0.5hp	8	8 μ F	30 μ F	/	555	291	173
88022104	88022304	/	SD075	1.5" / 50mm	0.75hp	9	14 μ F	40 μ F	/	555	291	173
88022105	88022305	/	SD100	1.5" / 50mm	1.0hp	9.1	20 μ F	60 μ F	/	555	291	173
88022106	88022306	/	SD120	1.5" / 50mm	1.2hp	11	20 μ F	60 μ F	/	555	291	173
/	/	88020303	SDUS050	1.5" / 50mm	0.5hp	9	/	/	30 μ F	555	270	173
/	/	88020304	SDUS075	1.5" / 50mm	0.75hp	10	/	/	30 μ F	555	270	173

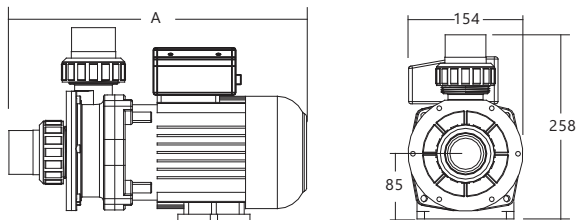
PERFORMANCE CURVE



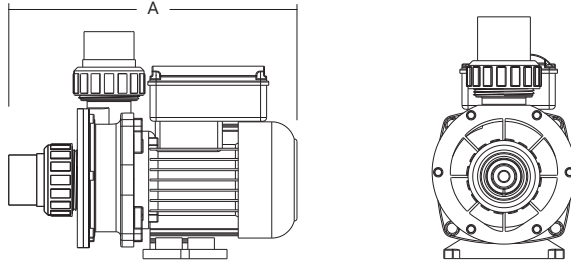
Remark: The performance curve above is for 50Hz models

3. PRODUCT INFORMATION (ST & STUS)

ST



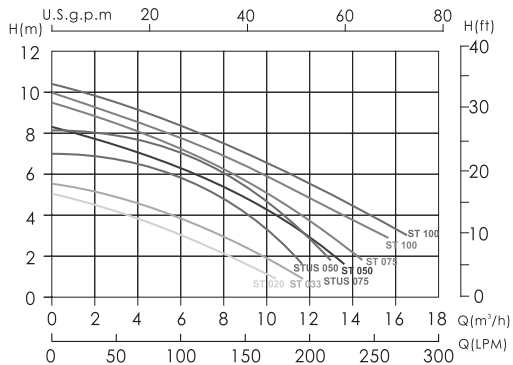
STUS



Model 50Hz	Input (kW)	Current (AMP)	Noise (dB)	Head(m)			
				2	4	6	8
				FlowRate(m ³ /h)			
ST020	0.28	1.5	55	8.2	3.2	—	—
ST033	0.43	2	55	9.8	5.2	—	—
ST050	0.55	2.5	60	13.2	10.3	6.6	1
ST075	0.75	3.5	60	14	11.3	8.6	4
ST100	0.9	4.7	65	17	13.6	9.8	5.1
ST120	0.97	5.8	65	18	14.8	11	6.8

Code 220V/50Hz	Code 220V/60Hz	Code 110V/60Hz	Code 115V/60Hz	Model	Connection Size	Horsepower	Weight (kg)	Capacitance 220V	Capacitance 110V	Capacitance 115V	A mm
88023001	88023101	88023201	/	ST020	1.5" / 50mm	0.2hp	4.5	4μF	20μF	/	330
88023002	88023102	88023202	/	ST033	1.5" / 50mm	0.33hp	5.1	6μF	24μF	/	330
88023003	88023103	88023203	/	ST050	1.5" / 50mm	0.5hp	7.3	8μF	30μF	/	375
88023004	88023104	88023204	/	ST075	1.5" / 50mm	0.75hp	8.2	14μF	40μF	/	375
88023005	88023105	88023205	/	ST100	1.5" / 50mm	1.0hp	9.1	20μF	60μF	/	375
88023006	88023106	88023206	/	SD120	1.5" / 50mm	1.2hp	9.3	20μF	60μF	/	375
/	/	/	88020203	SDUS050	1.5" / 50mm	0.5hp	9.0	/	/	30μF	375
/	/	/	88020204	SDUS075	1.5" / 50mm	0.75hp	10.0	/	/	30μF	375

PERFORMANCE CURVE



Remark: The performance curve above is for 50Hz models


4. IMPORTANT SAFETY INSTRUCTIONS



WARNING:

The user guide you are holding includes essential information on the safety measures to be implemented for installation and start-up. Therefore, the installer as well as the user must read the instructions before beginning installation and start-up. Keep this manual for future reference.

1. A protective device is to be installed in the fixed wiring.
2. This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.
3. The appliance shall be installed in accordance with national wiring regulations means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules. A disconnected incorporated in the fixed wiring is to be provided.
4. The pump is to be supplied through a residual current device (RCD) or Ground Fault Circuit Interrupt (GFCI) having a rated residual operation current not exceeding 30mA.

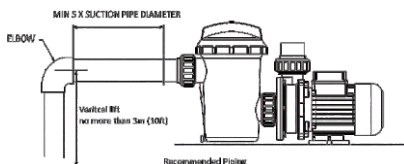
Correct disposal of this product	
	<p>This symbol on the product, or in its packaging, indicates that this product may not be treated as household waste. Instead, it should be taken to the appropriate waste collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by the inappropriate waste handling of this product. For more detailed information about the recycling of this product, please contact your local council, your household waste disposal service, or the shop where you purchased the product.</p>

5. INSTALLATION

5.1 PIPING

1. Install the pump as close to the pool as possible, preferably in a dry, well ventilated area away from direct sunlight. Protect the pump from excessive moisture.
2. Place the pump as close to the water source as possible, so that the suction pipe is short, straight and direct to reduce the friction loss. Don't install the pump at more than 10 ft (3 meters) of geometrical height from water level.
3. Before installing the pump, make sure that the surface is solid, elevated, rigid and vibration free.

4. Secure the pump to the base with screws or bolts to limit the vibration and the stress on the pipe or the joints.
5. Leave enough space for gate valves in suction and discharge piping, if required.
6. Ensure there is enough clearance for pre-filter basket & Lid open and motor ventilation.
7. Connect the suction and discharge pipe to the outlet and inlet of the swimming pool.
8. Make sure that floor drainage is adequate to prevent flooding.
9. Make sure that the pump and piping are accessible for servicing.



Note: The pump suction and discharge connections are mounded in thread stops, DO NOT try to screw the pipe beyond these stops. The two sets 1.5" union adaptor are universal design for metric and imperial PVC pipe connection.



5.2 ELECTRICAL WIRING



This power pump demand licensed or certified electrician or qualified pool installer to ensure there is adequate protection between the pump motor and mains power supply according to individual countries safety code.

The pump has power cord with plug attached on the plug, plug it to a power socket with circuit breaker to isolate the motor from the mains power for over load protection. The circuit breaker rating should refer to the electrical specification of individual pump working voltage and power.

The power has to be with a Residual Current Device (RCD) or Ground Fault Circuit Interrupt (GFCI) having a rated residual operating current not exceeding 30mA.



WARNING:

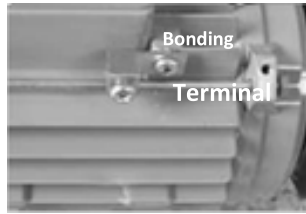
If the RCD / GFCI device trips, it means there is fault on the power line or motor. Do not use this pump. Disconnect the pump and have the problem corrected by a qualified service representative before using. Press the reset button to reset the RDC / GFCI devices after fixed. It will keeps the circuit shut off and will not reset if the power line problem is

not fixed.

It is recommend to test the RCD / GFCI at least once a month.

Pumps should be shipped with Power cord with plug for corresponding countries. If there is not power cord attached to the pump, it is necessary to follow the local electricity power line color code to connect the power according to the wiring for individual pump diagram.

Bonding Instructions – Permanently wired units will need to include instructions for connecting the solid copper, equipotential bonding conductor. For SDUS050, SDUS075, SDUS100, SDUS150, STUS050 and STUS075 with ETL Mark for the United States, the size of the bonding conductor should be No. 8 AWG. For Canada the size of the bonding conductor should be No. 6 AWG. Bonding Nut location is as photo.



6. START UP



WARNING:

1. Never run pump dry! Running pump dry may cause damage to the mechanical seal causing leakage and flooding. Fill the pre-filter with water before starting motor.

2. Before removing the pre-filter Lid, STOP PUMP, CLOSE GATE

VALVES in suction and discharge pipes.

3. Always STOP THE PUMP before when RELEASE ALL PRESSURE from the pump and the piping system before proceeding.

4. Never tighten or loosen screw while the pump is in operation.

5. The suction pipe and the suction inlet in the pool must be free from obstruction.

Before start-up, the alignment of the pump should be checked. The tubing should be inspected to ensure that they are properly fitted and tightened and that they do not exert pressure or tension on the pump's suction or discharge connection. The pump should never be operated.

Tighten/untighten the pump Lid by hand only.

1. Clear all piping of construction debris and verify that the piping has passed a proper pressure test.

2. Check the filter and other equipment for proper installation, verifying all clamps and connections are properly installed as per the manufacturer's instructions.

3. Open any shut off valves on the suction and discharge lines.

4. Open the filter pressure relief valve and release all pressure from the system.

5. If the pump is located below the water level of the pool, opening the pressure relief valve will fill the pump with water.

6. If the pump is located above the pool water level, remove the Lid from the pre-filter and fill with water before starting the pump.

7. Check to see that the Lid O-ring and seat areas are clean and lubricated. Debris in the sealing area can cause air to leak into the system and make it difficult to prime the pump.

8. Close/tighten the Lid to make an airtight seal.

9. Turn on the pump.

10. If the pump does not prime within 15 minutes. Ensure all instructions to this point have been followed. Stop the pump! Check for suction leaks and repeat steps (I) through (VIII).

7. ROUTINE MAINTENANCE

The pump mechanical seal requires no lubrication and service.

The only routine maintenance needed is the inspection and cleaning of the pre-filter basket. Debris or trash collected in the basket will choke off the water flow through the pump. Follow the instructions below in order to clean the pre-filter basket:

1. Turn off the pump, close the gate valve in suction and discharge, and release all pressure from the system before proceeding.
2. For SD pump series, turn the transparent Lid cover follow the arrow on the Lid cover by opening key provided to release and lock the Lid ring.
3. For SDUS pump series, place the key for Lid around the transparent Lid cover, hold the two handles and turn anti clockwise to release the Lid.
4. Remove the pre-filter basket and cleaning. Make sure all the holes in the basket are clear, flush the basket with water and replace it in the trap with large opening at the pipe connection port (between ribs provided). If the basket is replaced backwards, the cover will not fit on the trap body.
5. Clean and inspect the Lid's O-ring ring; reinstall on the Lid cover.
6. Clean the ring groove on the pre-filter body and replace the Lid. To help keep the Lid from sticking, tighten it by hand only.
7. Put back the basket in 90 degree orientation of the center line properly.
8. Fill up the filter body with water and Prime the pump.



SD series



SDUS Series

Basket handle position



8. WINTERIZING

If the air temperature drops below 0°C (35°F), the water in the system can freeze and cause damage. Freezing damage is not warrantable.

To prevent freezing damage follow the procedures listed below:

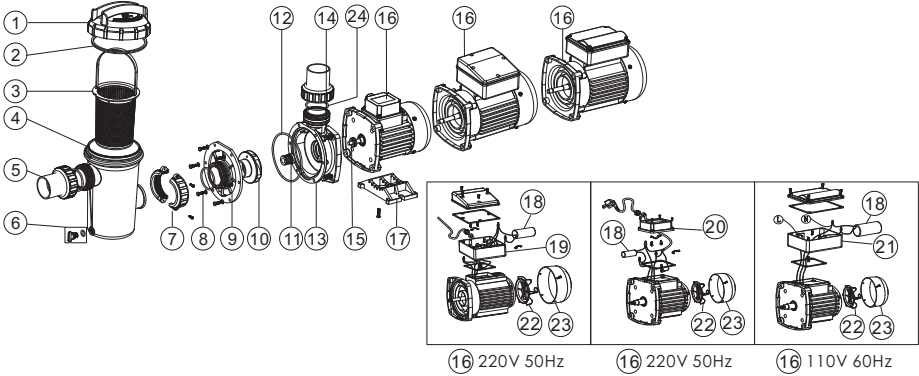
1. Shut off electrical power for the pump at the house circuit breaker.
2. Drain the water out of the pump case by removing the two drain plugs from the case.
3. Store the plugs in the pump basket.
4. Cover the motor to protect it from severe rain, snow and ice.
5. If it is possible, store the pump in a dry location during this time.
6. Do not wrap the motor in plastic. It will cause condensation and rust on the inside of the motor.

9. TROUBLE SHOOTING

Problem description	Possible causes
Motor does not start	<ol style="list-style-type: none"> 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. Pump Shaft rotating in wrong direction 7. Low voltage
Pump does not reach full speed	<ol style="list-style-type: none"> 1. Low voltage 2. Pump connected to the wrong voltage
Motor overheats (protector trips)	<ol style="list-style-type: none"> 1. Low voltage 2. Motor windings connected to the wrong voltage on dual voltage model
Pump delivers no water	<ol style="list-style-type: none"> 1. Pump is not primed 2. Closed valve in suction or discharge line 3. Leakage or air into suction system 4. Impeller clogged
Leakage of water at the shaft	<ol style="list-style-type: none"> 1. Shaft seal requires replacement
Low pump capacity	<ol style="list-style-type: none"> 1. Valve in the 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 pre-filter 5. Dirty filter 6. Impeller clogged
High pump pressure	<ol style="list-style-type: none"> 1. Discharge vale or inlet fittings closed too much 2. Return lines too small 3. Dirty filters
Noisy pump and motor	<ol style="list-style-type: none"> 1. Plugged basket in skinner or hair in lint pre-filter 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
Air bubbles at inlet fittings	<ol style="list-style-type: none"> 1. Leakage of air into the suction line in connections or valve stem 2. Cover gasket of hair and lint pre-filter needs cleaning 3. Low water level in the pool

10. REPLACEMENT PARTS

10.1 SD SERIES

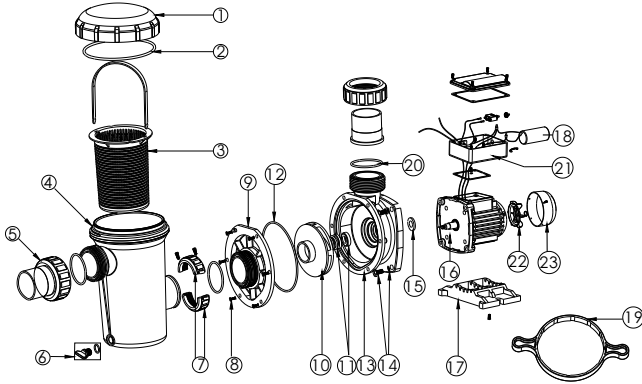


Key No.	Part No.	Description	QTY
1	01041043	Transparent Lid	1
2	02021088	O-Ring for Lid	1
3	89021701	Basket with Handle	1
4	01021061	SD Pump Pre-Filter	1
5*	89280105	1.5" Union (Black/ White Color)	2
6	89021307	Drain Plug With O-Ring	1
7	89022102	Inter-locking Nut with Screw	1
8	03011213	M5 x 16 Screw for Pump Front	6
9	01021046	ST SD Pump Body Cover	1
10	01311015	Impeller SD020/SD50/SQ20/SQ50 / SS20/SS50/ST20/ST50	1
10	01311016	Impeller SD33/SD75/SQ33/SQ75/ SS33 /SS75/ST33/ST75	1
10	01311017	Impeller SD050/SD100/SQ050/ SQ100 /SS050/SS100/ST050	1
10	01311018	Impeller SD075/SD120/SQ075/ SQ120 /SS075/SS120/ST075	1
10	01311019	Impeller SD100/SQ100/SS100/ ST100(220V/50HZ)	1
10	01311014	Impeller SS120(220V/50HZ)	1
10	01311023	Impeller SD020/SQ020/SS020/ ST020(220V,110V/60HZ)	1
10	01311024	Impeller SD033/SQ033/SS033/ ST033(220V,110V/60HZ)	1
11	04015033	1/2" Mechanical Seal	1
12	02011076	O-Ring for Pump Body	1
13	01021024	SD SQ ST Pump Body	1

Key No.	Part No.	Description	QTY
14	89022104	M8*25 Screw with Washer for Motor	4
15	02011156	Motor Slinger	1
16	89022109	Motor SD020/SQ020/SS020/ ST020 (220V/50HZ)	1
16	89022110	Motor SD033 (220V/50Hz)	1
16	89022105	Motor SD050/SQ050/SS050/ ST050 (220V/50HZ)	1
16	89022106	Motor SD075/SQ075/SS075/ ST075 (220V/50HZ)	1
16	89022107	Motor SD100/SQ100/SS100/ ST100 (220V/50HZ)	1
16	89022108	Motor SD120/SQ120/SS120/ ST120 (220V/50HZ)	1
16	89022201	Motor SD/SQ/SS/ST020(220V/60HZ)	1
16	89022202	Motor SD/SQ/SS/ST033(220V/60Hz)	1
16	89022203	Motor SD/SQ/SS/ST050(220V/60Hz)	1
16	89022204	Motor SD/SQ/SS/ST075(220V/60Hz)	1
16	89022205	Motor SD/SQ/SS/ST100(220V/60Hz)	1
16	89022206	Motor SD/SQ/SS/ST120(220V/60Hz)	1
16	89022305	Motor SD/SQ/SS/ST020(110V/60Hz)	1
16	89022306	Motor SD/SQ/SS/ST033(110V/60Hz)	1
16	89022301	Motor SD/SQ/SS/ST050(110V/60Hz)	1
16	89022302	Motor SD/SQ/SS/ST075(110V/60Hz)	1
16	89022303	Motor SD/SQ/SS/ST100(110V/60Hz)	1
16	89022304	Motor SD/SQ/SS/ST120(110V/60Hz)	1
17	89022101	Base with M5 x 20 Screw	1
18	04016028	Capacitor for SS/SD/SQ/ST050 Pump 110V	1
18	04016019	Capacitor for SC050 & SS/SD/SQ/ST075 Pump 110V	1
18	04016021	Capacitor for SC075 & SS/SD/SQ/ST100-124 Pump 110V	1
18	04016009	Capacitor for SS/SD/SQ/SP/ST050 Pump	1
18	04016010	Capacitor for SS/SD/SQ/SP/ST075 & Sc050 Pump	1
18	04016012	Capacitor for SS/SD/SQ/SP/ST100-120	1
18	04016032	Capacitor for SS/SD/SQ/ST020 Pump 100V	1
18	004016033	Capacitor for SS/SD/SQ/ST033 Pump 100V	1
18	04016030	Capacitor for SS/SD/SQ/ST020 AMU020P/TP(50/60Hz)	4
18	04016031	Capacitor for SS/SD/SQ/ST033 Pump	1
19	89022112	Cable Box for SD,SQ,SP,ST050-120 Pump	1
20	89022111	Cable Box for SQ/ST/SD020-033, SS020-SS030 Pump	1
21	89021505	Cable Box 100V	1
22	01031027	Cooling Fan for SS/SD/SQ/ST050- SS/SD/SQ/ST120 Pump	1
22	01031026	Cooling Fan for SS/SD/SQ/ST020- SS/SD/SQ/ST030 Pump	1
23	01031011	Fan Cover for SS/SD/SQ/ST020- SS/SD/SQ/ST030 Pump	1
23	01031010	Fan Cover for SQ/SP/SS/SD/ST050- SQ/SP/SS/SD/ST120	1
24	02011104	O-Ring for 1.5" Union	2

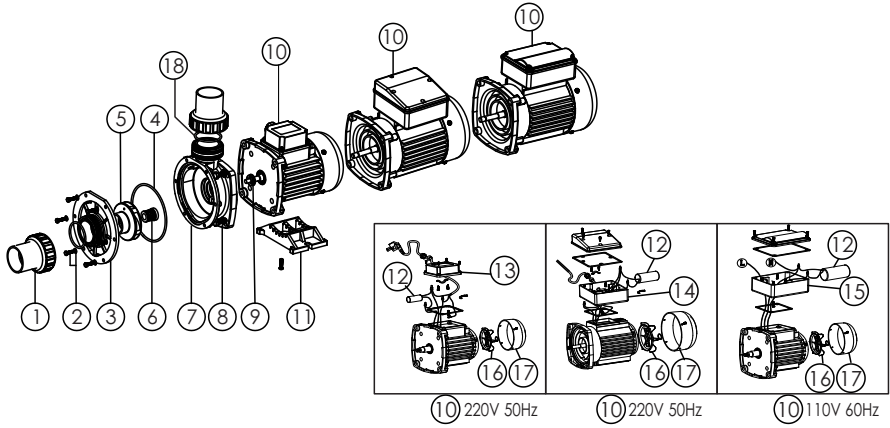
Notes: *89280105 Bis1.5"Unionin Black Color and 89280105 Wis1.5" Unionin White Color

10.2 SDUS SERIES



Key No.	Part No.	Description	QTY
1	01041046	Transparent Lid	1
2	02020047	O-Ring for lid	1
3	89021701	Basket with Handle	1
4	01021061	SDUS Pump Pre-filter	1
5	89280105	1.5"union	2
6	89021307	Drain Plug With O-ring	1
7	89022102	Inter-locking nut with Screw	1
8	03011213	M5*16 Screw for pump front	6
9	01021046	Pump body cover	1
10	01311015	Impeller SDUS050(110V/60HZ)	1
10	01311016	Impeller SDUS075(110V/60HZ)	1
11	04015033	1/2"Mechanical seal	1
12	02020041	O-Ring for pump body	1
13	01021024	ST SD Pump body	1
14	89022104	M8*25 Screw with Washer for motor	4
15	02011156	Motor Slinger	1
16	04020056	Motor SDUS050(110V/60HZ)	1
16	04020070	Motor SDUS075(110V/60HZ)	1
17	89022101	Base with M5*20 Screw	1
18	04016040	Capacitor for SD050 Pump	1
18	04016040	Capacitor for SD075 Pump)	1
19	01020014	Key for transparent Lid	1
20	02011104	O-Ring for 1.5" Union	2
21	89021505	Cable Box	1
22	01031027	Cooling fan for SS/SD/SQ/ST050-SS/SD/SQ/ST120 Pump	1
23	01031010	Fan Cover for SQ/SP/SS/SD/ST050-SQ/SP/SS/SD/ST120	1

10.3 ST SERIES



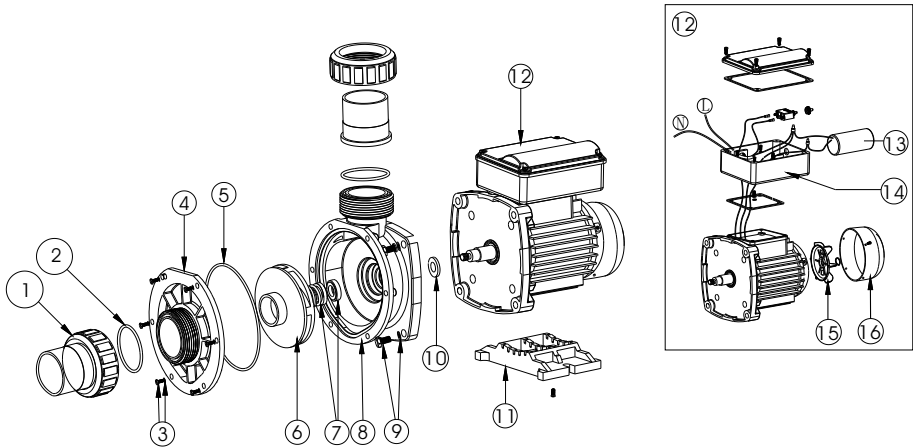
Key No.	Part No.	Description	QTY
1*	89280105	1.5"union (Black/ White Color)	2
2	89022103	M5*16 Screw for pump front with Washer	6
3	01021046	ST SD Pump Body Cover	1
4	02011076	O-Ring for Pump Body	1
5	01311015	Impeller SD020/SD50/SQ20/SQ50/SS20/SS50/ST20/ST50	1
5	01311016	Impeller SD33/SD75/SQ33/SQ75/SS33/SS75/ST33/ST75	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

Key No.	Part No.	Description	QTY
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 Color

1* 89280105W is 1.5"union in White Color

10.4 STUS SERIES



Key No.	Part Number	Description	QTY
1	89280105	1.5"union	2
2	02011104	O-Ring for 1.5" Union	2
3	03011213	M5*16 Screw for pump front	6
4	01021046	Pump body cover	1
5	02020041	O-Ring for pump body	1
6	01311015	Impeller SDUS050(110V/60HZ)	1
6	01311016	Impeller SDUS075(110V/60HZ)	1
7	04015033	1/2"Mechanical seal	1
8	01021024	ST SD Pump body	1
9	89022104	M8*25 Screw with Washer for motor	4
10	02011156	Motor Slinger	1
11	89022101	Base with M5*20 Screw	1
12	04020056	Motor SDUS050(110V/60HZ)	1
12	04020070	Motor SDUS075(110V/60HZ)	1
13	04016040	Capacitor for SD050 Pump	1
13	04016040	Capacitor for SD075 Pump	1
14	89021505	Cable Box	1
15	01031027	Cooling fan for SS/SD/SQ/ST050-SS/SD/SQ/ST120 Pump	1
16	01031010	Fan Cover for SQ/SP/SS/SD/ST050-SQ/SP/SS/SD/ST120	1

11. TERMS OF THE WARRANTY

As original purchaser of this equipment have purchased from Emaux Water Technology Co Ltd, through Authorized International Distributor or Dealer, warrants its products free from defects in materials and workmanship under normal use during warranty period. The warranty period begins on the day of purchase and extends only to the original purchaser. It is not transferable to anyone who subsequently purchases the product from you. It excludes all expendable parts.

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- (b) as a result of an act of God;
- (c) by operation outside the usage parameters stated herein;
- (d) by the use of parts not manufactured or sold by Emaux;
- (e) by modification of the product;
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