

# Submersible Propeller Pumps



**SMF - Submersible Mixed Flow Pump**  
**SAF - Submersible Axial Flow Pump**

## ■ Features

### Simple Installation

The pump unit is easily installed in a column pipe, where the force of gravity keeps it seated firmly on the ledge at the base of the column. This design feature eliminates the need for anti-rotation stoppers to prevent rotation of the pump unit.

### Reduction of Construction & Equipments Costs

The SAF-series submersible propeller pump simplifies the pumping station design and enables installation in a small space, which reduce engineering and construction costs substantially.

### Easy Maintenance and Repair

Since the pump and column pipe are designed on the building block principle, inspection and disassembly procedures are simple and can be performed quickly.

### Low Noise and Vibration Levels

The pump operates submerged, and has a direct-coupled design which minimizes noise and vibration levels. Thus the surrounding environment is protected from noise and vibrations normally associated with pumps.

## ■ Applications

- Controlling flood or storm water
- Transferring water for agricultural irrigation, industrial uses
- Transferring water in wastewater treatment plants or water attractions
- Transferring large volumes of water

### Motor

Dry type three-phase squirrel cage induction motor. Stator insulation class F with thermal sensor. Watertight motor enclosure specified for IP68 protection. Rotor and shaft dynamically and statically balanced. Low noise level achieved by eliminating the need for a cooling fan or shaft coupling.

### Guide Casing

Hydraulically designed high efficiency guide casing and easily replaceable wear ring made of aluminum bronze.

### Propeller

Dynamically and hydraulically balanced high efficiency propeller is made from aluminum bronze and features an adjustable blade angle.

### Stuffing Box

Watertight cable entry is double sealed, and provides the connection chamber with IP68 protection from water leakage.

### Bearings

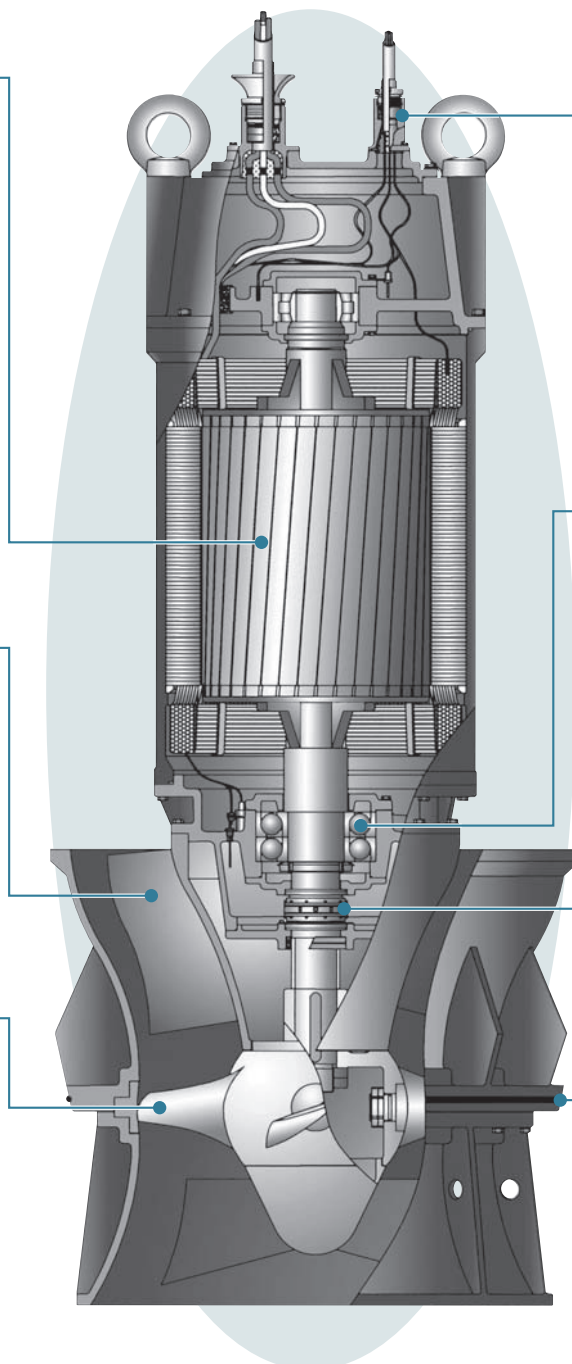
Bearings are lubricated with grease designed to last long. Thermal sensors are provided for protection from overheating.

### Mechanical Seal

The silicone carbide double mechanical seal in the oil chamber ensures reliable shaft sealing and durability. Leakage sensor is equipped in the oil chamber.

### O-ring

The O-ring in the lower section of the guide casing is specially designed for watertight sealing and to prevent rotation of the pump inside the column.



## Standard Specification

**SAF / SMF Series** , are designed by sophisticated hydraulics models feature large volume, low head, high efficiency, reliable performance, perfect control and protection, extreme automation, easy installation and operation. It is extensively used in the delivery in industry and agriculture, municipal water supply, sewage treatment, flood and storm water control, circulation of large quantity of water in dabbling facilities in a park and the lake.

- ❖ Capacities to 20.000 M<sup>3</sup>/Hr
- ❖ Heads to 30 Metres
- ❖ Horsepower range 1000 Hp
- ❖ Rpm range 600 to 1800
- ❖ Liquid Temperatures to 40 °C
- ❖ Submergence to 82 Ft

### Motor

Three Phase, squirrel cage motor.

Voltage 400V or others, 3Ph, 50/60 Hz

Insulation Class F = 155°C, Protection Grade IP 68

Max. Medium Temperature in continuous operation: + 40°C

### Motor Protection

Each phase of stator is connected with temperature switch. This can protect motor against overheat. Also leakage sensor is employed in oil chamber and junction box.

And sensor for bearing overheat is equipped.

### Mechanical Seal

All pumps equipped with two mechanical seal.

### Materials

**Motor Casing:** GG 25

**Hub:** Stainless Steel

**Impeller Blade:** Stainless Steel or Bronze or others you required

**Rotor Shaft:** SS 240

**Nuts & Bolts:** SS 304

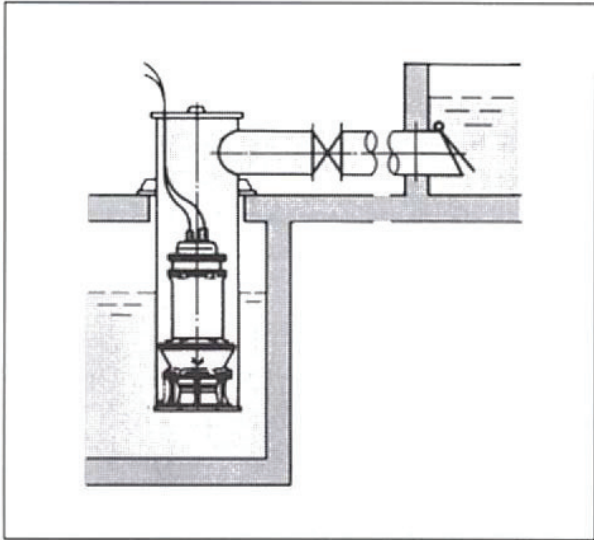
**Mechanical Seal:** Upper: WuC/WuC

Lower: SiC/SiC

## Installation Configuration

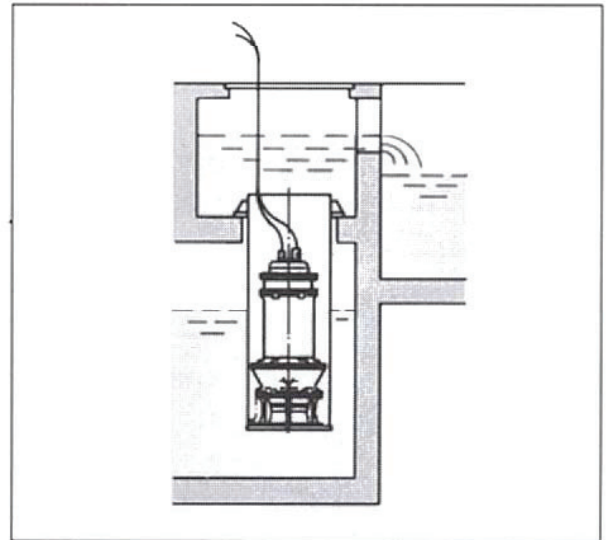
### Type 1 (Suspended)

- Discharge above floor.
- With discharge pipe, valve and flap valve.



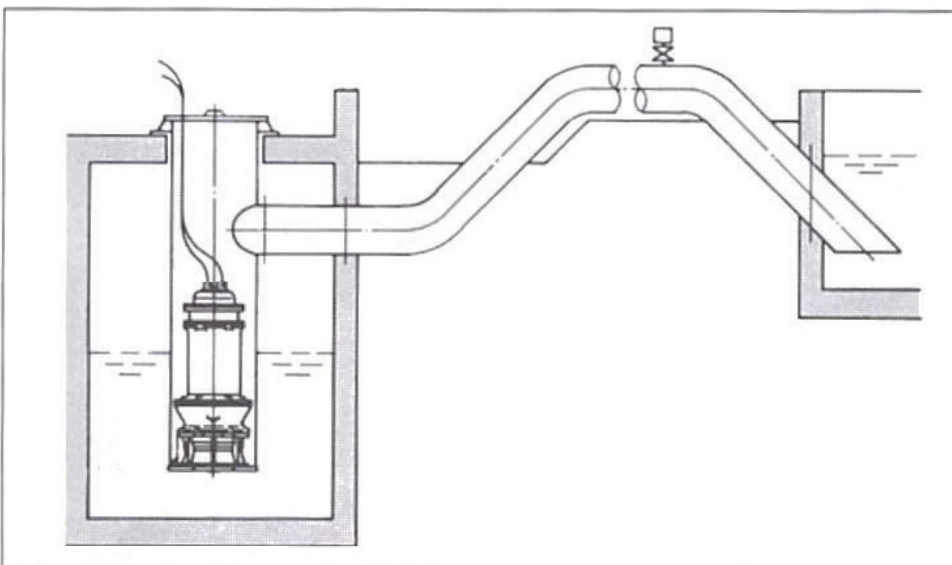
### Type 2 (Suspended)

- Discharge above floor.
- With discharge pipe only.



### Type 3 (Suspended, Shypon Type)

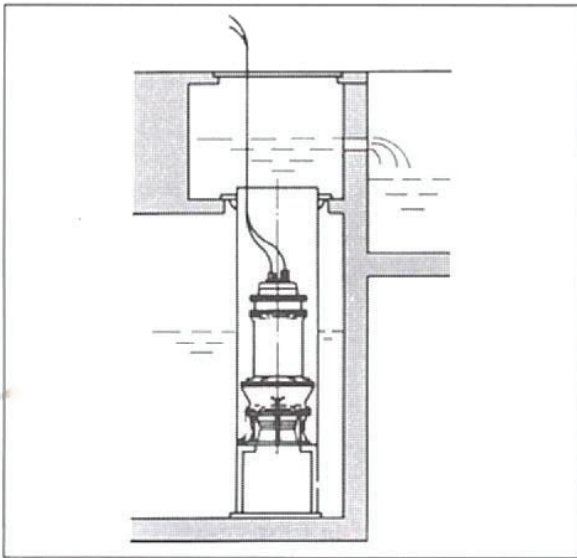
- Discharge below floor.
- With discharge pipe and air vent valve.



## Installation Configuration

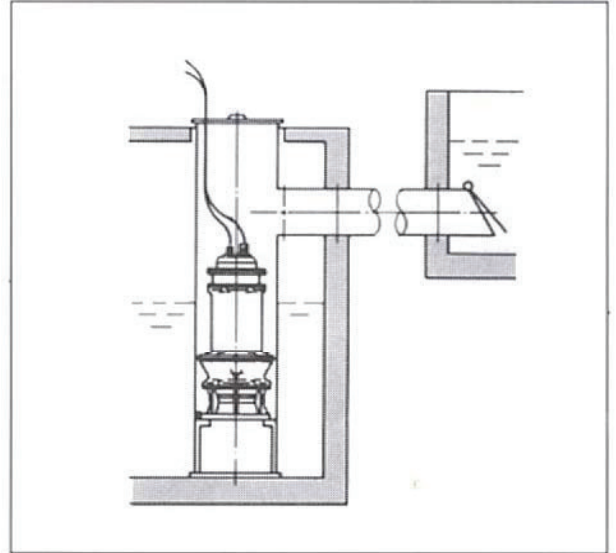
### Type 4 (Placed)

- Discharge above floor.
- With discharge column (reinforced concrete ) only.



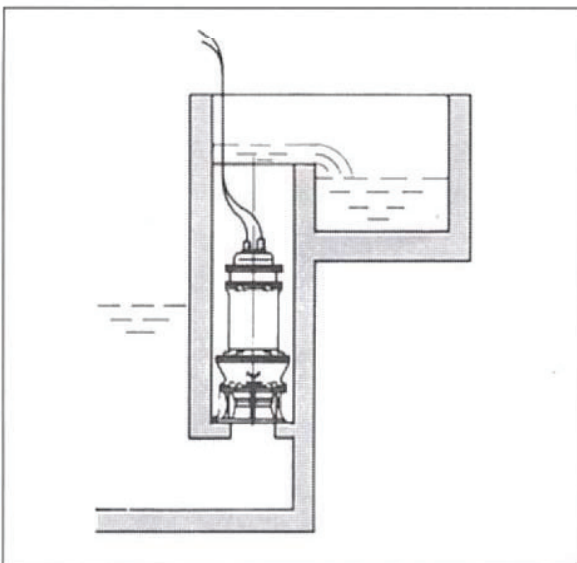
### Type 5 (Placed)

- Discharge below floor.
- With discharge pipe and flap valve.



### Type 6 (Placed)

- Discharge above floor.
- With discharge pipe only..



### Type 7 (Movable)

- Installed on a pontoon.

