

Output: **2.2 - 30 kW (3 - 40 HP)**

SJL

SJL Series is a submersible aerator which performs aeration and mixing of the tank by dissolving oxygen into the water with fine bubble supplied by blower. SJL Series adopts a dedicated reduction gear developed for large mixing force.

| | Installation | Output kW (HP) | Pump Model | Page |
|---------------------|--------------------|----------------|------------|------|
| Aerator | Guide Rail Type | 2.2 (3) | SJL22-P | 390 |
| | | 3.7 (5) | SJL37-P | |
| | | 5.5 (7.5) | SJL55-P | |
| | | 7.5 (10) | SJL75-P | |
| | | 11 (15) | SJL110-P | |
| | | 15 (20) | SJL150-P | |
| | | 22 (30) | SJL220-P | |
| | | 30 (40) | SJL300-P | |
| | Free Standing Type | 2.2 (3) | SJL22-F | |
| | | 3.7 (5) | SJL37-F | |
| | | 5.5 (7.5) | SJL55-F | |
| | | 7.5 (10) | SJL75-F | |
| | | 11 (15) | SJL110-F | |
| | | 15 (20) | SJL150-F | |
| 22 (30) | | SJL220-F | | |
| 30 (40) | | SJL300-F | | |
| Mixer (No-aeration) | Free Standing Type | 2.2 (3) | SJL22-K | |
| | | 3.7 (5) | SJL37-K | |
| | | 5.5 (7.5) | SJL55-K | |
| | | 7.5 (10) | SJL75-K | |
| | | 11 (15) | SJL110-K | |
| | | 15 (20) | SJL150-K | |
| | | 22 (30) | SJL220-K | |
| | | 30 (40) | SJL300-K | |

■ Features

● Available for both Aerobic and Anaerobic mixing

The SJL-series is a forced-air supply type submersible aerator. It can be used for both aerobic and anaerobic mixing simply by running or halting the operation of the air blower. It is suitable for denitrification, nitrification and SBR processes.

● Highly Reliable Dedicated Reduction Gear

Equipped with a dedicated reduction gear developed for the SJL-series, providing high reliability for continuous operation in a long-term.

● Powerful Mixing

The axial-flow impeller and downward discharge casing ensure high flow velocity at the tank bottom and uniform convection.

● Low Energy Consumption

Air bubble minimization effect offers a high oxygen transfer rate with a low energy consumption.

● Non-clogging and High durability

Non-clogging design casing and time-proven double mechanical seals with 4-faces SiC ensure high durability in the application of continuous operation in a long-term.

● Reinforced Cable

Lightweight and tough cable with special reinforcement and core sealer is employed.

● Easy Maintenance

Motor and impeller can be removed from the casing by simply unfastening the three bolts, which provides simple maintenance accessibility.



SJL75

■ Applications

- Sewage and Industrial waste treatment facilities
 - Aeration and mixing processes
 - Anaerobic or anoxic mixing process
 - SBR process

■ Standard Specifications

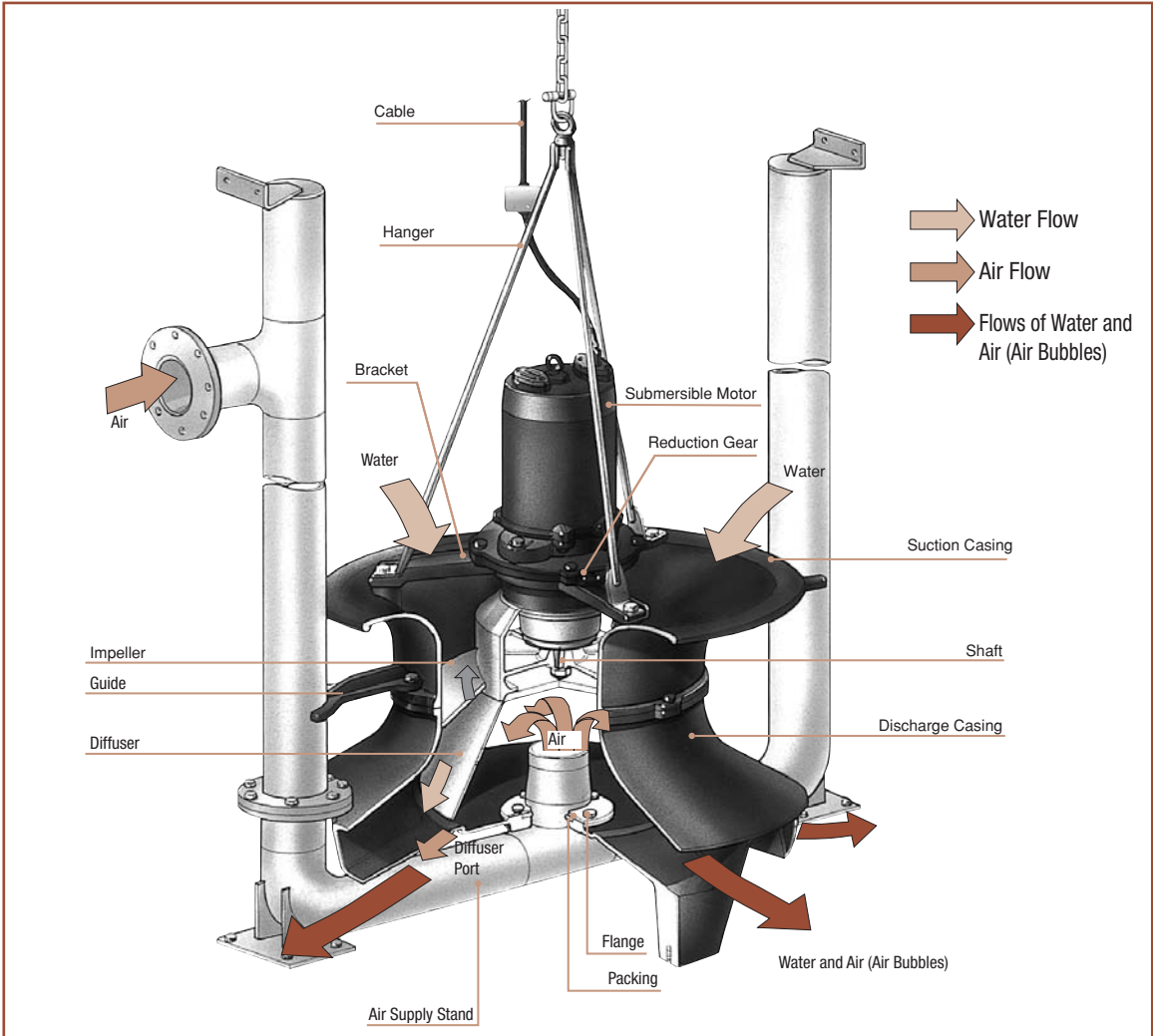
| | | |
|------------------------|----------------------------|---|
| Handling Liquid | Kind of Liquid | Wastewater (including sewage, human waste, industrial waste and sludge) |
| | Temperature | 0 - 40°C |
| Material | Cable | 2PNCTS |
| | Main Shaft | Stainless steel (SUS329J1) |
| | Impeller | Stainless steel casting (SCS13) |
| | Suction / Discharge casing | Gray steel casting (FC250) |
| Electric Motor | Name | Air-filled type Submersible Induction Motor |
| | Insulation Class | Class E |
| | Enclosure | IP68 |
| | Phase | 3-ph |
| | Voltage | 200 - 480V |
| | Pole | 4P |
| | Motor Protector | Micro Thermal Protector (MTP) |

■ Special Specifications

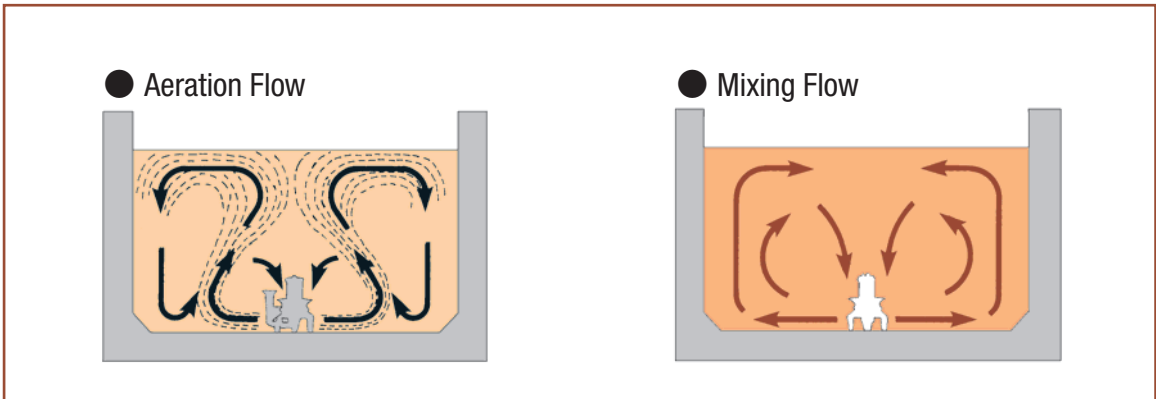
| | |
|-------------------------|----------------------------------|
| Motor Insulation | Class F |
| Cable Extension | Cable Length 15 - 30m (every 5m) |
| Motor Protector | Leakage Detector |

For special specifications other than the above, please contact us.

Function Explanation Diagram (SJL-P: Guide rail type)



Flow Patterns



Standard Specifications

| Model | Output kW (HP) | Discharge Water Volume m ³ /min | Airflow Range* 1 m ³ /min | Reference Performance* 2 (Water Depth: 5m) | | Necessary Blowing Pressure at Air Supply Connection Port * 3 kPa (mmAq) | Applicable Tank Size | | | Weight (Bare Body) kg | Air Supply Stand Weight kg |
|--------|----------------------|---|--|---|---|--|-------------------------------|--|--|-----------------------------|-------------------------------------|
| | | | | Airflow m ³ /min | Oxygen Transfer Rate kg (O ₂)/h | | Max. Volume m ³ | Max. Surface Area m ² | Max. Side Length of Rectangle m | | |
| SJL22 | 2.2 (3) | 13 | 0.9~4.1 | 2.4 | 8.2 | Installation Water Depth + 1.5(+ 150) | 460 | 85 | 9.5 | 250 | 18 |
| SJL37 | 3.7 (5) | 21 | 1.1~6.8 | 3.8 | 13.8 | Installation Water Depth + 2.0(+ 200) | 670 | 124 | 12.8 | 330 | 23 |
| SJL55 | 5.5 (7.5) | 34 | 1.6~9.7 | 5.6 | 20.0 | Installation Water Depth + 2.0(+ 200) | 1,000 | 185 | 14.3 | 640 | 33 |
| SJL75 | 7.5 (10) | 47 | 3.2~12.9 | 7.5 | 27.5 | Installation Water Depth + 2.5(+ 250) | 1,400 | 260 | 17.5 | 900 | 53 |
| SJL110 | 11 (15) | 70 | 4.3~19.3 | 11.8 | 42.5 | Installation Water Depth + 1.5(+ 150) | 2,000 | 370 | 21.2 | 1,250 | 80 |
| SJL150 | 15 (20) | 95 | 6.4~25.8 | 16.1 | 58.1 | Installation Water Depth + 1.5(+ 150) | 2,700 | 500 | 24.6 | 1,560 | 84 |
| SJL220 | 22 (30) | 140 | 8.6~40.8 | 24.7 | 85.0 | Installation Water Depth + 1.0(+ 100) | 4,000 | 740 | 30 | 3,100 | 146 |
| SJL300 | 30 (40) | 190 | 12.9~53.7 | 33.3 | 112.0 | Installation Water Depth + 0.5(+ 50) | 5,500 | 1,020 | 35 | 4,200 | 206 |

For motors characteristics, bearings and oils, see the specifications (detail data) - App.1. The value within the parenthesis { } are given for reference.

Note 1) *1 - *3 are applicable to the Guide rail and Free standing types only and not to the Mixing type.

Note 2) Air Break may occur, depending on debris in the tank or liquid quality, in which case the airflow range may be extremely small.

Note 3) These values are subject to at a clear water temperature of 20°C and a concentration of dissolved oxygen of 0mg/ℓ. They vary approximately 10%, depending on measurement conditions. They need to be corrected with the water quality, temperature of inflowing water and the concentration of dissolved oxygen in the tank. The airflow range and applicable tank size values are obtained at a sludge concentration of 5,000mg/ℓ.

Standard Accessories

- Cable (10m) 1 pc.
- Cable Holder 1 pc.
- Connecting Device 1 set

(Guide Rail Type: Air Supply Stand)
(Free Standing Type: Air Supply Pipe)

Special Accessories

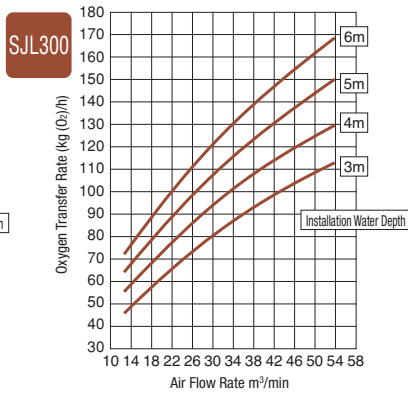
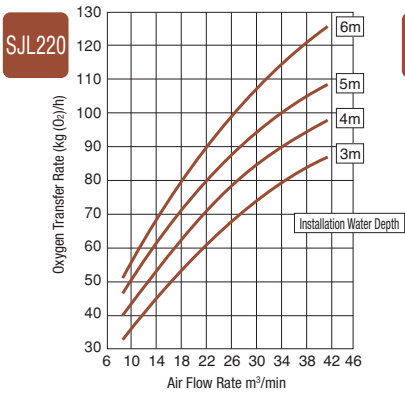
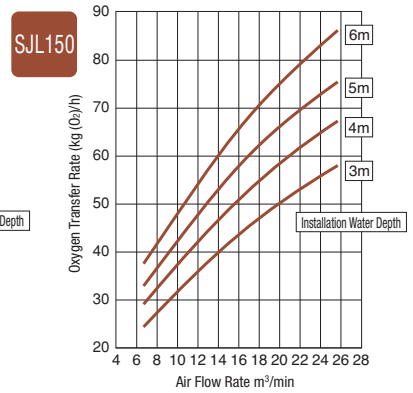
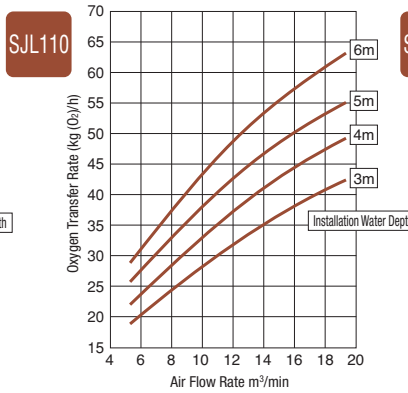
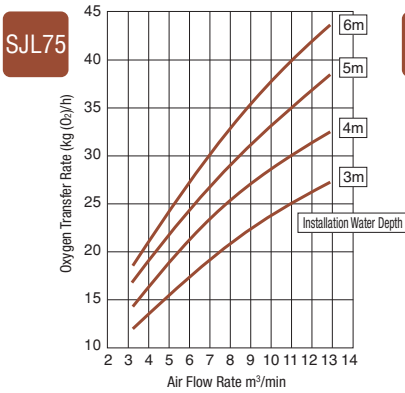
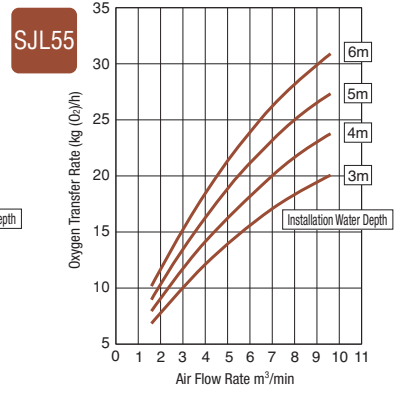
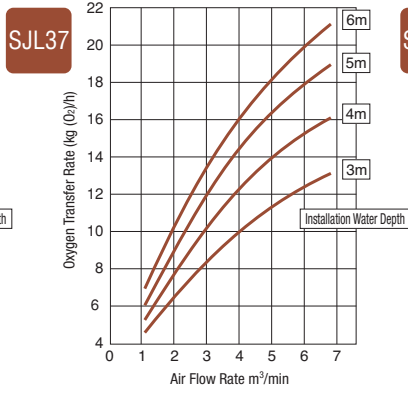
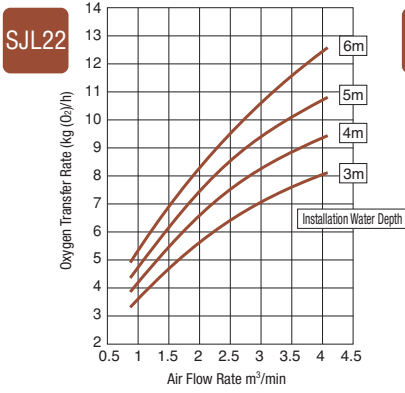
- Lifting Chain
- Special Tools
- Anchor Bolt
- Guide Pipe that also serves as an Air Supply Pipe

Part Specifications

| Applicable Model | Cable Specifications | | | | | Starting Method | Mechanical Seal | |
|---------------------|----------------------|------------------------------------|-------|---|--------------------|---------------------------------------|-----------------|---------|
| | Type | Section Area (mm ²) | Cores | Applications | Outer Dia. (mm) | | Lower | Upper |
| SJL22 SJL37 | 2PNCTS | 2 | 4 | Power | ϕ 16 (ϕ 18) | Direct | SiC/SiC | SiC/SiC |
| | | 2 | 2 | Control (MTP) (Control (Leakage Detector)) | | | | |
| SJL55 | 2PNCTS | 3.5 | 4 | Power | ϕ 18 (ϕ 20) | | | |
| | | 2 | 2 | Control (MTP) (Control (Leakage Detector)) | | | | |
| SJL75 | 2PNCTS | 5.5 | 4 | Power | ϕ 20 (ϕ 22) | | | |
| | | 2 | 2 | Control (MTP) (Control (Leakage Detector)) | | | | |
| SJL110 | 2PNCTS | 5.5 | 7 | Power | ϕ 28 | | | |
| | | 2 | 2 | Control (MTP) (Standby (Leakage Detector)) | | | | |
| SJL150 | 2PNCTS | 14 | 7 | Power | ϕ 33 | | | |
| | | 2 | 2 | Control (MTP) (Standby (Leakage Detector)) | | | | |
| SJL220 | 2PNCTS | 22 | 7 | Power | ϕ 40 | Cemented carbide/ Cemented carbide | Carbon/SiC | |
| | | 2 | 2 | Control (MTP) (Standby (Leakage Detector)) | | | | |
| SJL300 | 2PNCTS | 30 | 7 | Power | ϕ 45 | | | |
| | | 2 | 2 | Control (MTP) (Standby (Leakage Detector)) | | | | |

Performance Curves

(Conditions: Normal air flow, clear water at a temperature of 20°C, and dissolved oxygen at a concentration of 0mg/ℓ)

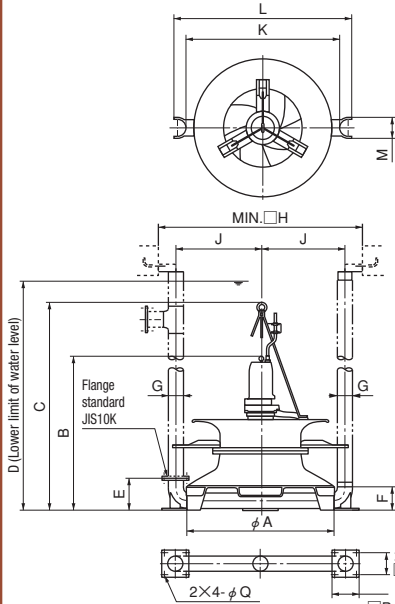


Normal air flow conditions: Temperature of 20°C, absolute pressure of 101.3 kPa and relative humidity of 65%

Dimensions

Unit: mm

Guide rail type SJL-P

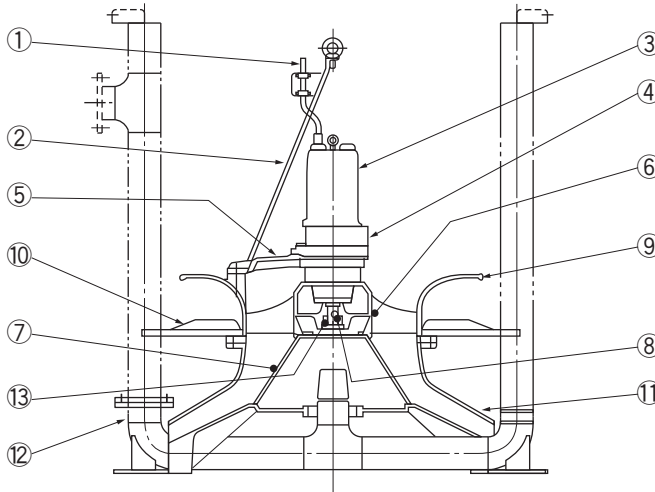


| Model | Output kW (HP) | A | B | C | D | E | F | G |
|----------|----------------|-------|-------|-------|-------|-----|-----|------|
| SJL22-P | 2.2 (3) | 740 | 983 | 1,383 | 1,500 | 200 | 120 | 65A |
| SJL37-P | 3.7 (5) | 900 | 1,055 | 1,414 | 1,700 | 200 | 140 | 80A |
| SJL55-P | 5.5 (7.5) | 1,150 | 1,305 | 1,757 | 1,900 | 250 | 180 | 100A |
| SJL75-P | 7.5 (10) | 1,400 | 1,453 | 1,870 | 2,100 | 300 | 220 | 125A |
| SJL110-P | 11 (15) | 1,640 | 1,759 | 2,200 | 2,300 | 350 | 260 | 150A |
| SJL150-P | 15 (20) | 1,900 | 1,890 | 2,305 | 2,500 | 350 | 260 | 150A |
| SJL220-P | 22 (30) | 2,300 | 2,194 | 2,635 | 2,700 | 450 | 400 | 200A |
| SJL300-P | 30 (40) | 2,600 | 2,389 | 2,830 | 2,900 | 550 | 500 | 250A |

| Model | Output kW (HP) | H | J | K | L | M | N | P | Q |
|----------|----------------|-------|-------|-------|-------|-----|-----|-----|----|
| SJL22-P | 2.2 (3) | 1,086 | 450 | 814 | 915 | 86 | 110 | 160 | 15 |
| SJL37-P | 3.7 (5) | 1,290 | 530 | 960 | 1,075 | 100 | 120 | 170 | 15 |
| SJL55-P | 5.5 (7.5) | 1,530 | 650 | 1,175 | 1,319 | 124 | 150 | 200 | 15 |
| SJL75-P | 7.5 (10) | 1,880 | 800 | 1,440 | 1,620 | 160 | 200 | 250 | 15 |
| SJL110-P | 11 (15) | 2,200 | 930 | 1,676 | 1,890 | 184 | 220 | 270 | 19 |
| SJL150-P | 15 (20) | 2,460 | 1,060 | 1,936 | 2,150 | 184 | 220 | 270 | 19 |
| SJL220-P | 22 (30) | 3,000 | 1,325 | 2,414 | 2,680 | 236 | 260 | 320 | 19 |
| SJL300-P | 30 (40) | 3,400 | 1,475 | 2,664 | 2,980 | 286 | 310 | 370 | 19 |

Sectional View

SJL-P Guide rail type



| Number | Name | Material |
|--------|--------------------|----------|
| 1 | Cable | 2PNCTS |
| 2 | Suspension Fitting | SUS304 |
| 3 | Submersible Motor | — |
| 4 | Reduction Gear | — |
| 5 | Bracket | FC200 |
| 6 | Impeller | SCS13 |
| 7 | Diffuser | SUS304 |
| 8 | Shaft | SUS329J1 |
| 9 | Suction Casing | FC250 |
| 10 | Guide | FC200 |
| 11 | Discharge Casing | FC250 |
| 12 | Air supply Stand | SUS304 |
| 13 | Locking Element | — |

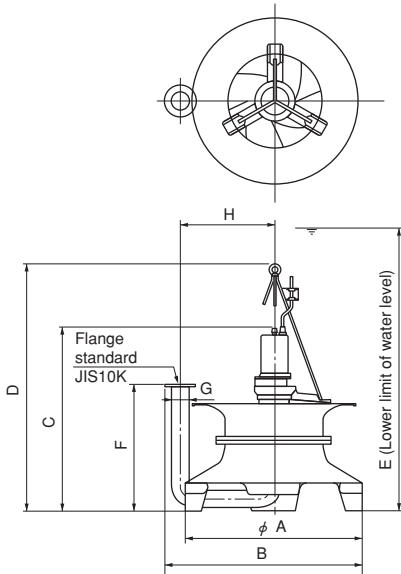
* The Guide Rails are provided as a special accessory.

* Note **VCT** : Polyvinyl-chloride sheathed cabtyre cable **2PNCT** : Chlorprene sheathed cabtyre cable **SUS** : Stainless steel
SCS : Stainless steel casting **SS** : Mild steel **SPCC** : Steel **FC** : Gray iron casting **FCD** : Ductile iron casting **NBR** : Nitril rubber

Dimensions

Unit: mm

Free standing type SJL-F



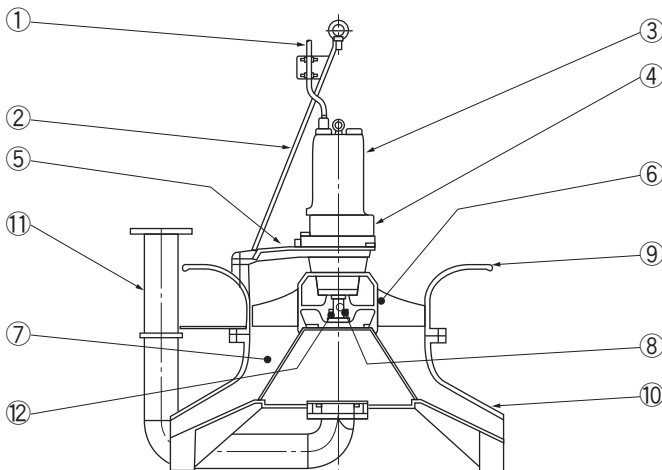
| Model | Output kW (HP) | A | B | C | D | E |
|----------|----------------|-------|-------|-------|-------|-------|
| SJL22-F | 2.2 (3) | 740 | 888 | 983 | 1,383 | 1,500 |
| SJL37-F | 3.7 (5) | 900 | 1,043 | 1,055 | 1,414 | 1,700 |
| SJL55-F | 5.5 (7.5) | 1,150 | 1,330 | 1,305 | 1,757 | 1,900 |
| SJL75-F | 7.5 (10) | 1,400 | 1,565 | 1,453 | 1,870 | 2,100 |
| SJL110-F | 11 (15) | 1,640 | 1,830 | 1,759 | 2,200 | 2,300 |
| SJL150-F | 15 (20) | 1,900 | 2,080 | 1,890 | 2,305 | 2,500 |
| SJL220-F | 22 (30) | 2,300 | 2,565 | 2,194 | 2,635 | 2,700 |
| SJL300-F | 30 (40) | 2,600 | 2,900 | 2,389 | 2,830 | 2,900 |

| Model | Output kW (HP) | F | G | H |
|----------|----------------|-------|------|-------|
| SJL22-F | 2.2 (3) | 600 | 65A | 430 |
| SJL37-F | 3.7 (5) | 650 | 80A | 500 |
| SJL55-F | 5.5 (7.5) | 900 | 100A | 650 |
| SJL75-F | 7.5 (10) | 1,000 | 125A | 740 |
| SJL110-F | 11 (15) | 1,150 | 150A | 870 |
| SJL150-F | 15 (20) | 1,250 | 150A | 990 |
| SJL220-F | 22 (30) | 1,350 | 200A | 1,200 |
| SJL300-F | 30 (40) | 1,600 | 250A | 1,400 |

Note) As this type of aerator may move during operation, depending on the conditions of the installation floor (an inclined floor or slippery nature of metal), the aerator needs to be fixed using a Guide Pipe, Anchor Weight or Anchor Rope.

Sectional View

SJL-F Free standing type



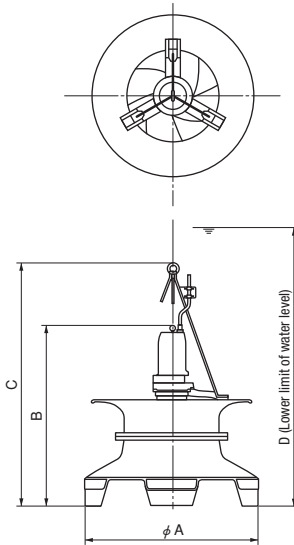
| Number | Name | Material |
|--------|--------------------|----------|
| 1 | Cable | 2PNCTS |
| 2 | Suspension Fitting | SUS304 |
| 3 | Submersible Motor | — |
| 4 | Reduction Gear | — |
| 5 | Bracket | FC200 |
| 6 | Impeller | SCS13 |
| 7 | Diffuser | SUS304 |
| 8 | Shaft | SUS329J1 |
| 9 | Suction Casing | FC250 |
| 10 | Discharge Casing | FC250 |
| 11 | Air Supply Pipe | SUS304 |
| 12 | Locking Element | — |

* Note **VCT** : Polyvinyl-chloride sheathed cabtyre cable **2PNCT** : Chloroprene sheathed cabtyre cable **SUS** : Stainless steel
SCS : Stainless steel casting **SS** : Mild steel **SPCC** : Steel **FC** : Gray iron casting **FCD** : Ductile iron casting **NBR** : Nitril rubber

Dimensions

Unit: mm

Mixing type (No-aeration) SJL-K



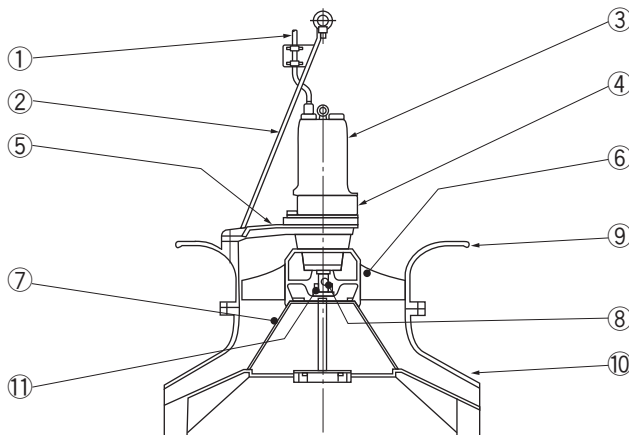
| Model | Output kW (HP) | A | B | C | D |
|----------|----------------|-------|-------|-------|-------|
| SJL22-K | 2.2 (3) | 740 | 983 | 1,383 | 1,500 |
| SJL37-K | 3.7 (5) | 900 | 1,055 | 1,414 | 1,700 |
| SJL55-K | 5.5 (7.5) | 1,150 | 1,305 | 1,757 | 1,900 |
| SJL75-K | 7.5 (10) | 1,400 | 1,453 | 1,870 | 2,100 |
| SJL110-K | 11 (15) | 1,640 | 1,759 | 2,200 | 2,300 |
| SJL150-K | 15 (20) | 1,900 | 1,890 | 2,305 | 2,500 |
| SJL220-K | 22 (30) | 2,300 | 2,194 | 2,635 | 2,700 |
| SJL300-K | 30 (40) | 2,600 | 2,389 | 2,830 | 2,900 |

Note) As this type of aerator may move during operation, depending on the conditions of the installation floor (an inclined floor or slippery nature of metal), the aerator needs to be fixed using a Guide Pipe, Anchor Weight or Anchor Rope.

Sectional View

SJL-K

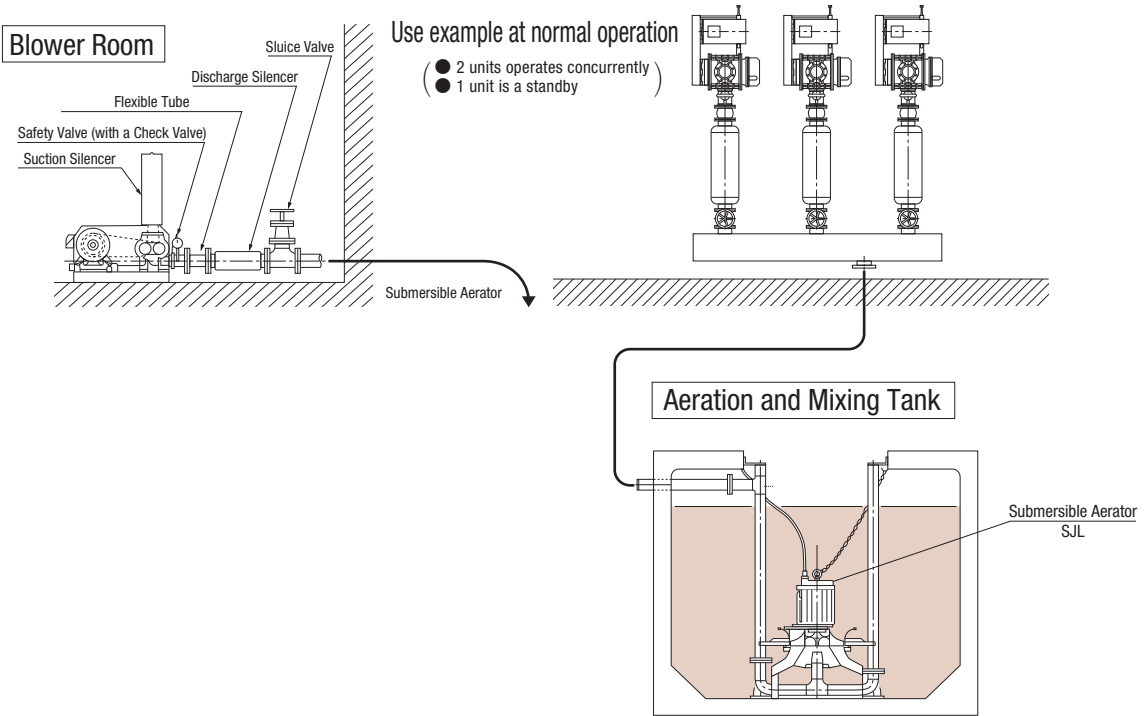
Mixing type (No-aeration)



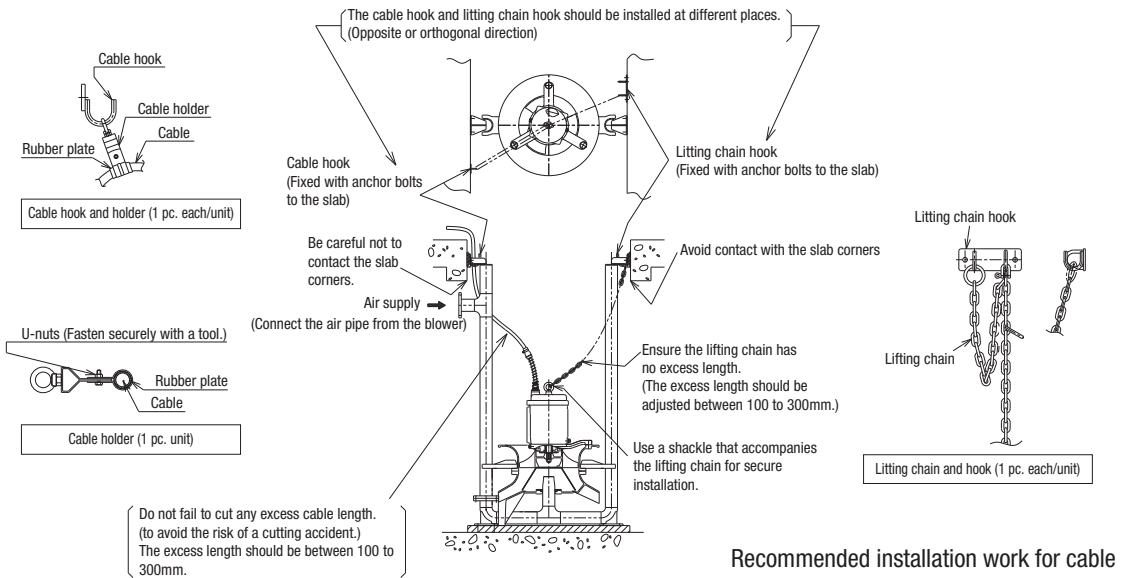
| Number | Name | Material |
|--------|--------------------|----------|
| 1 | Cable | 2PNCTS |
| 2 | Suspension Fitting | SUS304 |
| 3 | Submersible Motor | — |
| 4 | Reduction Gear | — |
| 5 | Bracket | FC200 |
| 6 | Impeller | SCS13 |
| 7 | Diffuser | SUS304 |
| 8 | Shaft | SUS329J1 |
| 9 | Suction Casing | FC250 |
| 10 | Discharge Casing | FC250 |
| 11 | Locking Element | — |

* Note **VCT** : Polyvinyl-chloride sheathed cabtyre cable **2PNCT** : Chloroprene sheathed cabtyre cable **SUS** : Stainless steel
SCS : Stainless steel casting **SS** : Mild steel **SPCC** : Steel **FC** : Gray iron casting **FCD** : Ductile iron casting **NBR** : Nitril rubber

Example Layout



Recommended Installation Work



Recommended installation work for cable and lifting chain

(The S-J-P type is described as an example, but the case is the same for both S-J-L-P and S-U-P types.)