

Manufacturer specializing in sewage treatment pump

## JOOHO INDUSTRIAL

Since Established 1991,  
we have made the Best Quality  
Industrial Pump



JOOHO INDUSTRIAL CO., LTD.

Headquarters. Jangseung Industrial Complex, 42-56, Daegotbuk-ro 305-bungil, Daegot-myeon, Gimpo-si, Gyeonggi-do, Korea  
Tel. +82-1833-9288  
Fax. +82-2-2678-5391 / +82-31-983-5391  
www.spurtpump.co.kr

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## Jooho Industrial

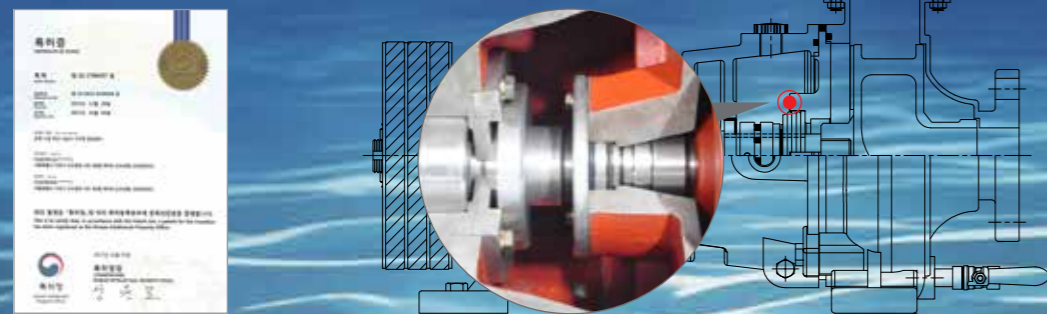
Jooho Industrial aims to develop a pump of best durability and performances that can compete with products from European or US companies and has been producing sewage transfer pump used in public institutions including domestic and overseas water supply and sewage treatment facilities since its foundation in 1991. In particular, Jooho's pumps transferring sludge are known in the field for the superior quality and average lifespan for 10-20 years. Jooho Industrial is attempting for customer satisfaction.

## Jooho Industrial and SPURT pump

The name of Spurt had been named after Spurt Trading Company founded in Japan. Jooho Industrial has participated in the early phases of introduction of Spurt pump in Korea, conducted internal improvement work, and completed the pump's localization process, causing it to become a standard for domestic Spurt pumps. In the international field, Spurt pump is classified into channel or non-clog type.

## Water Leakage Prevention Pump (patent no.10-1796437)

Non-clog sludge transfer pump of Jooho Industrial is equipped with mechanical part for water leakage prevention and prevents leakage of fluid into a bearing when M/C seal is damaged.



# HISTORY & CERTIFICATE

## History of Jooho Industrial

- 1991. 03. Foundation of Jooho Industrial
- 1991. 12. Received patent certificate for pump bearing protection equipment
- 1991. 08. Development of Spurt 40A-300A
- 1992. 03. Development of volute pump, vortex pump, double suction pump, and inline pump
- 1994. 05. Received patent certificate for self-priming pump
- 1996. 03. Development of non-clog centrifugal spiral pump
- 1997. 10. Exported Spurt pump to water purification plant in Thailand
- 2002. 02. Received patent for centrifugal pump
- 2003. 09. Established Plant 2 in Namyangju
- 2004. 02. Exported Spurt pump to water purification plants in Indonesia, Vietnam and Malaysia
- 2006. 09. Received CE certificate
- 2009. 07. Received patent certificate for Spurt pump
- 2010. 06. Received patent certificate for sludge pump impeller weight reduction
- 2016. 01. Incorporation of Jooho Industrial Co., Ltd.
- 2016. 09. Received patent certificate for double volute
- 2016. 10. Exported Spurt pump to Chile and India
- 2016. 11. Relocation of headquarters to Gimpo
- 2016. 12. Exported screw pump to water purification plant in Bangladesh
- 2017. 01. Developed and received patent certification for double discharge pump
- 2017. 06. Received commendation of MSS for product development
- 2017. 06. Exported screw pump to Azerbaijan
- 2017. 11. Received patent certificate for pump leakage prevention
- 2017. 12. Received patent certificate for submersible pump scum collector
- 2018. 04. Received license for plant mechanical contractor

## Patent & Certification

|                                    |  |                                    |  |   |
|------------------------------------|--|------------------------------------|--|---|
|                                    |  |                                    |  |   |
| License for Mechanical Equipment   | Certificate of Patent (10-1818543)                     | Certificate of Patent (10-1702327) | ISO9001:2015   | Inno biz  |
|                                    |  |                                    |  |   |
| Certificate of Patent (10-1447440) | Excellent Joint Brand                                  | Certificate of Patent (10-1249163) | Certificate of Patent (10-1249363)                     | Certificate of Patent (10-1237451)                  |
|                                    |  |                                    |  |   |
| Certificate of Patent (10-0907645) | Certificate of Utility Model Registration (20-0442699) | Certificate of Patent (10-0801260) | Certificate of Utility Model Registration (20-0441483) | Certificate of Utility Model Registration (0267069) |

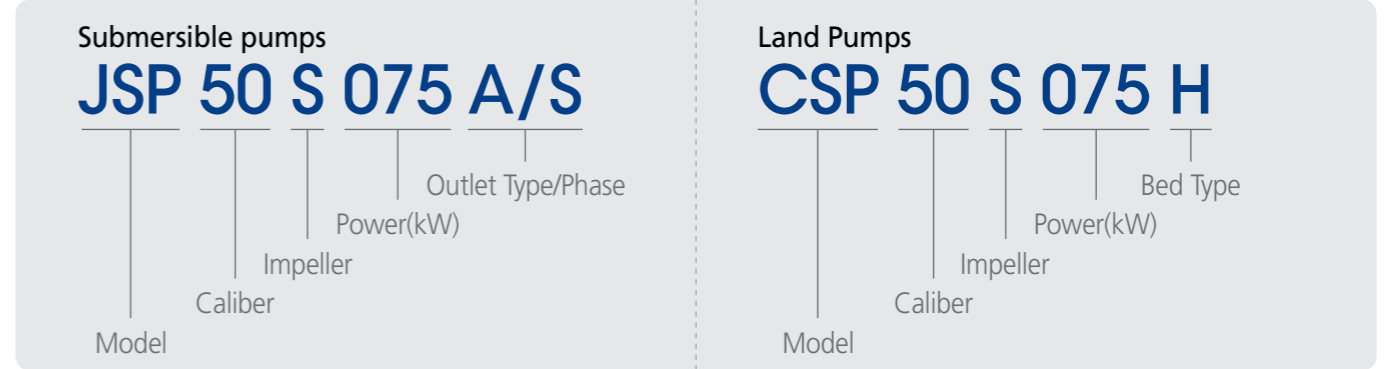
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# Impellers of Jooho Industrial

Choose a suitable impeller for purpose!



Transfer liquid sludge, water content based on 97%  
(★ = Good, ☆ = So,so)

|   | Through rate | Flux        | Head        | Viscosity   |
|---|--------------|-------------|-------------|-------------|
| <p><b>Spurt Impeller (CHANNEL)</b><br/>Spurt impeller is designed to prevent being clogged by solid matters. There are semi-open and close impellers depending on transferred liquid, and a number of impeller determines its shape. Spurt impeller is an optimal type for transfer of solid matters, and has great degrees of durability and efficiency.</p> | ★<br>★<br>★  | ★<br>★<br>★ | ★<br>★<br>☆ | ★<br>★<br>★ |
| <p><b>Screw Impeller (SCREW)</b><br/>Screw impeller is produced by centrifugal spiral non-clog method, which prevents solid matters being clogged, despite of a change of flow caused by utilization environment. Also it has excellent durability and efficiency.</p>  | ★<br>★<br>☆  | ★<br>★<br>★ | ★<br>☆<br>☆ | ★<br>★<br>★ |
| <p><b>Vortex Impeller (VORTEX)</b><br/>Vortex impeller is designed to form a vortex inside of pump casing to transfer wastewater without clogged solid matters.</p>   | ★<br>☆<br>☆  | ★<br>★<br>☆ | ★<br>☆<br>☆ | ★<br>☆<br>☆ |
| <p><b>Open Impeller (OPEN)</b><br/>Open impeller is a specialized form of impeller in transfer of high viscosity matters. It is equipped with impeller wings produced to be used in the fields of paper pulp or chemistry and appropriate for transfer of lime or sediment from mines.</p>  | ★<br>★<br>★  | ★<br>★<br>★ | ★<br>★<br>★ | ★<br>★<br>★ |
| <p><b>Heli Max Screw (SCREW + OPEN)</b><br/>Heli max screw impeller is a product specialized in transfer of a large volume of high viscosity matters. Especially it is suitable for transfer of wastewater in quantity, and has excellent durability.</p>   | ★<br>★<br>☆  | ★<br>★<br>★ | ★<br>☆<br>☆ | ★<br>★<br>★ |
| <p><b>Cutter Impeller (CUTTER)</b><br/>Cutter impeller is designed by introducing carbide alloy impeller to spurt impeller to cut the solid matters in fluid and prevent clogging up the pipes.</p>   | ★<br>☆<br>☆  | ★<br>★<br>☆ | ★<br>☆<br>☆ | ★<br>☆<br>☆ |
| <p><b>Grinder Impeller (GRINDER)</b><br/>Grinder impeller is designed to grind solid matters by installing grinding wings on vortex impeller and to transfer ground matters through vortex impeller.</p>  | ★<br>☆<br>☆  | ★<br>★<br>☆ | ★<br>☆<br>☆ | ★<br>☆<br>☆ |

# 01. Submersible Spurt Pump (0.75~11kW)

|                               |      |                           |                      |                               |              |
|-------------------------------|------|---------------------------|----------------------|-------------------------------|--------------|
| Insulation type               | B    | Insulation level          | IP68                 | Recommended fluid temperature | Approx. 40°C |
| Recommended pH level of fluid | 6-10 | Recommended fluid density | 1.3g/cm <sup>3</sup> | Standard cable                | 8m           |

## Discharge type A, B, C



Hose type (A, standard)    Elbow type (B)    Auto removable type (C)

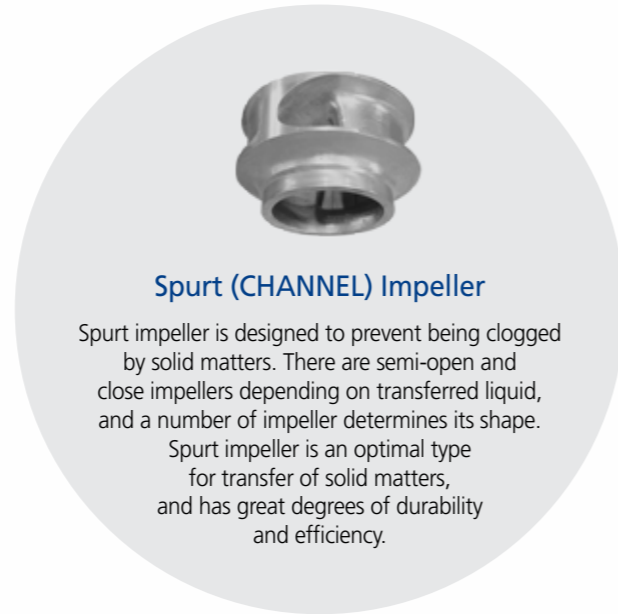
## Application

Wastewater, purification plant, sludge, food waste disposal plant, excrement disposal plant, sand and pebbles, etc.

## Feature

- Non-clog spurt impeller

| Model (mm) | Power supply (V, P) | Current | Electric power |     | Volume of fluid (m <sup>3</sup> /h) |         | Lift head (m) |         | Scope of solid matter transfer (mm) |
|------------|---------------------|---------|----------------|-----|-------------------------------------|---------|---------------|---------|-------------------------------------|
|            |                     |         | kW             | HP  | Standard                            | Maximum | Standard      | Maximum |                                     |
| 50S007     | 380V, 2P            | 2       | 0.75           | 1   | 10                                  | 26      | 10            | 12      | 25                                  |
| 50S011     |                     | 2.8     | 1.1            | 1.5 | 8                                   | 29      | 15            | 8       | 20                                  |
| 65S011     |                     | 2.8     | 1.1            | 1.5 | 15                                  | 33      | 10            | 15      | 25                                  |
| 50S015     |                     | 3.2     | 1.5            | 2   | 8                                   | 33      | 19            | 21      | 20                                  |
| 65S015     |                     | 3.2     | 1.5            | 2   | 15                                  | 37      | 15            | 20      | 25                                  |
| 50S022     |                     | 5       | 2.2            | 3   | 15                                  | 40      | 19            | 22      | 20                                  |
| 65S022     |                     | 5       | 2.2            | 3   | 25                                  | 42      | 16            | 22      | 20                                  |
| 80S022     |                     | 5       | 2.2            | 3   | 40                                  | 64      | 9             | 16      | 30                                  |
| 65S037     |                     | 8.9     | 3.7            | 5.5 | 25                                  | 58      | 27            | 33      | 20                                  |
| 80S037     |                     | 8.9     | 3.7            | 5.5 | 40                                  | 81      | 18            | 24      | 30                                  |
| 100S037    |                     | 8.9     | 3.7            | 5.5 | 60                                  | 93      | 13            | 24      | 30                                  |
| 50S055     |                     | 11.7    | 5.5            | 7.5 | 15                                  | 52      | 38            | 42      | 20                                  |
| 80S055     |                     | 11.7    | 5.5            | 7.5 | 30                                  | 47      | 30            | 36      | 25                                  |
| 100S055    |                     | 11.7    | 5.5            | 7.5 | 65                                  | 110     | 15            | 25      | 30                                  |
| 50S075     |                     | 15.7    | 7.5            | 10  | 20                                  | 37      | 45            | 52      | 25                                  |
| 80S075     |                     | 15.7    | 7.5            | 10  | 30                                  | 80      | 35            | 40      | 30                                  |
| 100S075    |                     | 15.7    | 7.5            | 10  | 65                                  | 110     | 19            | 30      | 35                                  |
| 150S075    |                     | 15.7    | 7.5            | 10  | 100                                 | 135     | 10            | 18      | 35                                  |
| 80S110     |                     | 22      | 11             | 15  | 45                                  | 110     | 37            | 48      | 35                                  |
| 100S110    |                     | 22      | 11             | 15  | 65                                  | 125     | 33            | 46      | 35                                  |
| 150S110    | 22                  | 11      | 15             | 100 | 185                                 | 19      | 27            | 50      |                                     |



## Spurt (CHANNEL) Impeller

Spurt impeller is designed to prevent being clogged by solid matters. There are semi-open and close impellers depending on transferred liquid, and a number of impeller determines its shape. Spurt impeller is an optimal type for transfer of solid matters, and has great degrees of durability and efficiency.



# 02. Submersible Spurt Pump (5.5~45kW)

|                               |      |                           |                      |                               |              |
|-------------------------------|------|---------------------------|----------------------|-------------------------------|--------------|
| Insulation type               | F    | Insulation level          | IP68                 | Recommended fluid temperature | Approx. 40°C |
| Recommended pH level of fluid | 6-10 | Recommended fluid density | 1.3g/cm <sup>3</sup> | Standard cable                | 8m           |

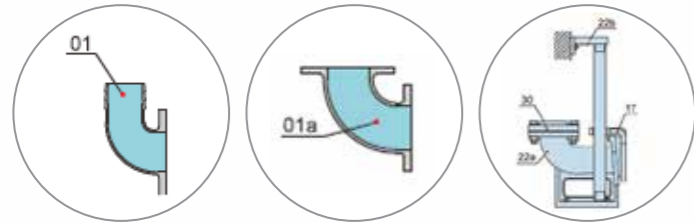


| Model (mm) | Power supply (V, P) | Current | Electric power |     | Volume of fluid (m <sup>3</sup> /h) |         | Lift head (m) |         | Scope of solid matter transfer (mm) |
|------------|---------------------|---------|----------------|-----|-------------------------------------|---------|---------------|---------|-------------------------------------|
|            |                     |         | kW             | HP  | Standard                            | Maximum | Standard      | Maximum |                                     |
| 100S055    | 380V, 4P            | 11.7    | 5.5            | 7.5 | 65                                  | 150     | 15            | 50      | 50                                  |
| 150S055    |                     | 11.7    | 5.5            | 7.5 | 110                                 | 200     | 10            | 55      | 55                                  |
| 100S075    |                     | 15.7    | 7.5            | 10  | 100                                 | 170     | 15            | 50      | 50                                  |
| 150S075    |                     | 15.7    | 7.5            | 10  | 150                                 | 240     | 10            | 75      | 75                                  |
| 200S075    |                     | 15.7    | 7.5            | 10  | 250                                 | 400     | 6             | 75      | 75                                  |
| 100S110    |                     | 22      | 11             | 15  | 100                                 | 190     | 22            | 31      | 50                                  |
| 150S110    |                     | 22      | 11             | 15  | 150                                 | 260     | 15            | 24      | 60                                  |
| 200S110    |                     | 22      | 11             | 15  | 300                                 | 450     | 9             | 17      | 70                                  |
| 100S150    |                     | 30      | 15             | 20  | 100                                 | 210     | 27            | 35      | 50                                  |
| 150S150    |                     | 30      | 15             | 20  | 150                                 | 290     | 20            | 29      | 60                                  |
| 200S150    |                     | 30      | 15             | 20  | 300                                 | 490     | 12            | 21      | 70                                  |
| 100S190    |                     | 38      | 19             | 25  | 100                                 | 200     | 31            | 38      | 50                                  |
| 150S190    |                     | 38      | 19             | 25  | 150                                 | 300     | 24            | 32      | 60                                  |
| 200S190    |                     | 38      | 19             | 25  | 300                                 | 530     | 15            | 25      | 70                                  |
| 100S220    |                     | 45      | 22             | 30  | 100                                 | 220     | 36            | 44      | 50                                  |
| 150S220    |                     | 45      | 22             | 30  | 150                                 | 330     | 28            | 39      | 60                                  |
| 200S220    |                     | 45      | 22             | 30  | 300                                 | 550     | 18            | 27      | 70                                  |
| 250S220    |                     | 45      | 22             | 30  | 500                                 | 860     | 11            | 19      | 70                                  |
| 150S300    |                     | 57.6    | 30             | 40  | 150                                 | 350     | 34            | 43      | 55                                  |
| 200S300    |                     | 57.6    | 30             | 40  | 300                                 | 580     | 21            | 34      | 80                                  |
| 250S300    |                     | 57.6    | 30             | 40  | 500                                 | 900     | 14            | 22      | 85                                  |
| 300S300    |                     | 57.6    | 30             | 40  | 800                                 | 1100    | 8             | 20      | 90                                  |
| 150S370    |                     | 69.8    | 37             | 50  | 150                                 | 370     | 40            | 48      | 55                                  |
| 200S370    |                     | 69.8    | 37             | 50  | 300                                 | 620     | 25            | 38      | 80                                  |
| 250S370    |                     | 69.8    | 37             | 50  | 500                                 | 950     | 18            | 26      | 85                                  |
| 300S370    |                     | 69.8    | 37             | 50  | 800                                 | 1150    | 11            | 23      | 90                                  |
| 200S450    |                     | 84.5    | 45             | 60  | 300                                 | 660     | 30            | 43      | 80                                  |
| 250S450    |                     | 84.5    | 45             | 60  | 500                                 | 1000    | 21            | 29      | 85                                  |
| 300S450    |                     | 84.5    | 45             | 60  | 800                                 | 1200    | 14            | 28      | 90                                  |

# 03. Submersible Vortex Pump

|                               |                                     |                           |                      |                               |              |
|-------------------------------|-------------------------------------|---------------------------|----------------------|-------------------------------|--------------|
| Insulation type               | B / F                               | Insulation level          | IP68                 | Recommended fluid temperature | Approx. 40°C |
| Recommended pH level of fluid | 6-10                                | Recommended fluid density | 1.3g/cm <sup>3</sup> | Standard cable                | 8m           |
| Power supply                  | Single phase 220V, Three-phase 380V |                           |                      |                               |              |

## Discharge type A, B, C



Hose type (A, standard)    Elbow type (B)    Auto removable type (C)

## Application

Wastewater, purification plant, sludge, food waste disposal plant, excrement disposal plant

## Feature

- Vortex impeller

| Model (mm) | Power supply (V, P) | Current | Electric power |     |          | Volume of fluid (m <sup>3</sup> /h) |          | Lift head (m) |     | Caliber (mm) |
|------------|---------------------|---------|----------------|-----|----------|-------------------------------------|----------|---------------|-----|--------------|
|            |                     |         | kW             | HP  | Standard | Maximum                             | Standard | Maximum       |     |              |
| 50V004S    | 220V, 2P            | 3.5     | 0.45           | 0.6 | 10       | 17                                  | 6        | 10            | 35  |              |
| 50V007S    |                     | 5.2     | 0.75           | 1   | 10       | 21                                  | 8        | 13            | 35  |              |
| 50V011S    |                     | 7.2     | 1.1            | 1.5 | 15       | 23                                  | 8        | 14            | 35  |              |
| 50V015S    |                     | 10      | 1.5            | 2   | 15       | 28                                  | 12       | 18            | 35  |              |
| 50V004     |                     | 1.3     | 0.45           | 0.6 | 10       | 17                                  | 6        | 10            | 35  |              |
| 50V007     | 2                   | 0.75    | 1              | 10  | 21       | 8                                   | 13       | 35            |     |              |
| 50V011     | 380V, 2P            | 2.8     | 1.1            | 1.5 | 15       | 23                                  | 8        | 14            | 35  |              |
| 50V015     |                     | 3.2     | 1.5            | 2   | 15       | 28                                  | 12       | 18            | 35  |              |
| 65V022     |                     | 5       | 2.2            | 3   | 25       | 35                                  | 10       | 16            | 56  |              |
| 65V037     |                     | 8.9     | 3.7            | 5   | 40       | 40                                  | 12       | 21            | 56  |              |
| 65V055     |                     | 11.7    | 5.5            | 7.5 | 50       | 65                                  | 12       | 23            | 56  |              |
| 80V055     | 380V, 4P            | 11.7    | 5.5            | 7.5 | 60       | 95                                  | 12       | 15            | 80  |              |
| 100V055    |                     | 11.7    | 5.5            | 7.5 | 80       | 135                                 | 9        | 14            | 100 |              |
| 80V075     |                     | 15.7    | 7.5            | 10  | 80       | 110                                 | 14       | 17            | 80  |              |
| 100V075    |                     | 15.7    | 7.5            | 10  | 110      | 165                                 | 10       | 15            | 100 |              |
| 100V110    |                     | 22      | 11             | 15  | 110      | 190                                 | 13       | 18            | 100 |              |



## Vortex Impeller (VORTEX)

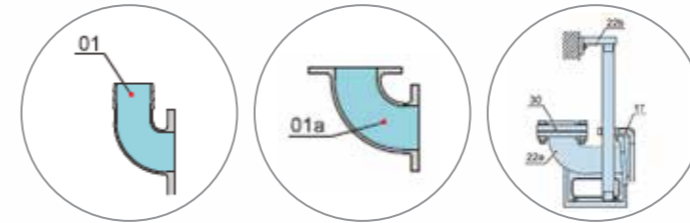
Vortex impeller is designed to form a vortex inside of pump casing to transfer wastewater without clogged solid matters.



# 04. Submersible Cutter Pump

|                               |                                     |                           |                      |                               |              |
|-------------------------------|-------------------------------------|---------------------------|----------------------|-------------------------------|--------------|
| Insulation type               | B                                   | Insulation level          | IP68                 | Recommended fluid temperature | Approx. 40°C |
| Recommended pH level of fluid | 6-10                                | Recommended fluid density | 1.3g/cm <sup>3</sup> | Standard cable                | 8m           |
| Power supply                  | Single phase 220V, Three-phase 380V |                           |                      |                               |              |

## Discharge type A, B, C



Hose type (A, standard)    Elbow type (B)    Auto removable type (C)

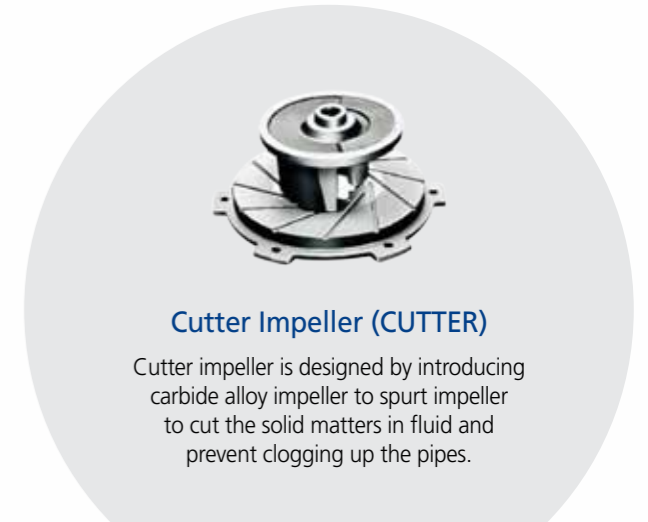
## Application

Wastewater, purification plant, sludge, food waste disposal plant, excrement disposal plant

## Feature

- Cutter impeller

| Model (mm) | Power supply (V, P) | Current | Electric power |     | Volume of fluid (m <sup>3</sup> /h) |         | Lift head (m) |         | Caliber (mm) |
|------------|---------------------|---------|----------------|-----|-------------------------------------|---------|---------------|---------|--------------|
|            |                     |         | kW             | HP  | Standard                            | Maximum | Standard      | Maximum |              |
| 50C007S    | 220V, 2P            | 5.2     | 0.75           | 1   | 10                                  | 24      | 8             | 12      | 20           |
| 50C011S    |                     | 7.2     | 1.1            | 1.5 | 15                                  | 27      | 9             | 15      | 20           |
| 50C007     |                     | 2       | 0.75           | 1   | 10                                  | 24      | 8             | 12      | 20           |
| 50C011     | 380V, 2P            | 2.8     | 1.1            | 1.5 | 15                                  | 27      | 9             | 15      | 20           |
| 50C015     |                     | 1.5     | 1.5            | 2   | 25                                  | 31      | 8             | 13      | 25           |
| 80C015     |                     | 1.5     | 1.5            | 2   | 40                                  | 52      | 6             | 13      | 25           |
| 50C022     |                     | 5       | 2.2            | 3   | 25                                  | 35      | 12            | 17      | 25           |
| 80C022     |                     | 5       | 2.2            | 3   | 40                                  | 61      | 9             | 17      | 25           |
| 80C037     |                     | 8.9     | 3.7            | 5   | 50                                  | 79      | 12            | 24      | 30           |
| 100C055    |                     | 11.7    | 5.5            | 7.5 | 65                                  | 107     | 13            | 27      | 35           |
| 100C075    |                     | 15.7    | 7.5            | 10  | 85                                  | 120     | 13            | 30      | 35           |



## Cutter Impeller (CUTTER)

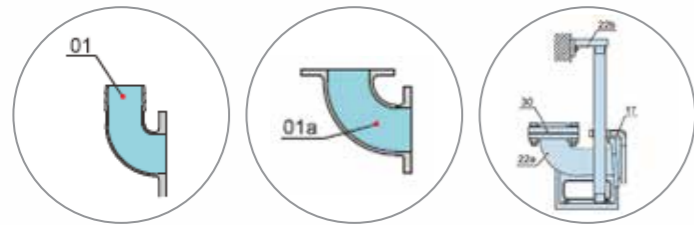
Cutter impeller is designed by introducing carbide alloy impeller to spurt impeller to cut the solid matters in fluid and prevent clogging up the pipes.



# 05. Submersible Grinder Pump

|                               |                                     |                           |                      |                               |              |
|-------------------------------|-------------------------------------|---------------------------|----------------------|-------------------------------|--------------|
| Insulation type               | B                                   | Insulation level          | IP68                 | Recommended fluid temperature | Approx. 40°C |
| Recommended pH level of fluid | 6-10                                | Recommended fluid density | 1.3g/cm <sup>3</sup> | Standard cable                | 8m           |
| Power supply                  | Single phase 220V, Three-phase 380V |                           |                      |                               |              |

## Discharge type A, B, C



Hose type (A, standard)    Elbow type (B)    Auto removable type (C)

## Application

Wastewater, purification plant, sludge, food waste disposal plant, excrement disposal plant

## Feature

- Cutter Impeller

| Model (mm) | Power supply (V, P) | Current | Electric power |     | Volume of fluid (m <sup>3</sup> /h) |         | Lift head (m) |         |
|------------|---------------------|---------|----------------|-----|-------------------------------------|---------|---------------|---------|
|            |                     |         | kW             | HP  | Standard                            | Maximum | Standard      | Maximum |
| 40G007S    | 220V, 2P            | 5.2     | 0.75           | 1   | 8                                   | 12      | 0             | 15      |
| 40G011S    |                     | 7.2     | 1.1            | 1   | 8                                   | 13      | 12            | 17      |
| 40G007     | 380V, 2P            | 2       | 0.75           | 1.5 | 8                                   | 12      | 0             | 15      |
| 40G011     |                     | 2.8     | 1.1            | 1.5 | 8                                   | 13      | 12            | 17      |
| 40G015     |                     | 3.2     | 1.5            | 2   | 10                                  | 18      | 14            | 18      |
| 40G022     |                     | 5       | 2.2            | 3   | 10                                  | 20      | 22            | 26      |
| 40G037     |                     | 8.5     | 3.7            | 5   | 15                                  | 25      | 25            | 30      |
| 40G055     |                     | 11.7    | 5.5            | 7.5 | 15                                  | 25      | 25            | 42      |



## Grinder Impeller (GRINDER)

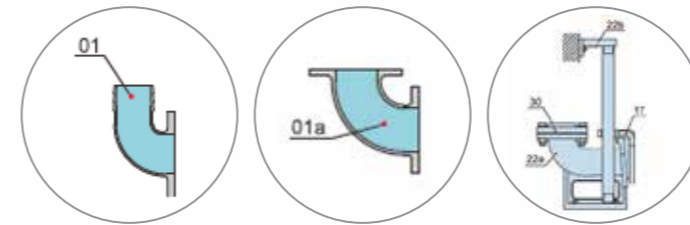
Grinder impeller is designed to grind solid matters by installing grinding wings on vortex impeller and to transfer ground matters through vortex impeller.



# 06. Drainage Pump

|                               |                                     |                           |                      |                               |              |
|-------------------------------|-------------------------------------|---------------------------|----------------------|-------------------------------|--------------|
| Insulation type               | B (0.5-3HP)<br>F (7.5-20HP)         | Insulation level          | IP68                 | Recommended fluid temperature | Approx. 40°C |
| Recommended pH level of fluid | 6-10                                | Recommended fluid density | 1.3g/cm <sup>3</sup> | Standard cable                | 8m           |
| Power supply                  | Single phase 220V, Three-phase 380V |                           |                      |                               |              |

## Discharge type A, B, C



Hose type (A, standard)    Elbow type (B)    Auto removable type (C)

## Application

Farm water, drainage, rainwater drainage, industrial water

## Feature

- Able to a larger volume with transformed mixed flow impeller
- Able to operate when a motor is out of water

| Model (mm) | Power supply (V, P) | Electric power |     | Volume of fluid (m <sup>3</sup> /h) | Lift head (m) | Scope of solid matter transfer (mm) |
|------------|---------------------|----------------|-----|-------------------------------------|---------------|-------------------------------------|
|            |                     | kW             | HP  |                                     |               |                                     |
| 100X005    | 220/380V, 2P        | 0.35           | 0.5 | 0.7                                 | 1.5           | 10                                  |
| 100X075    |                     | 0.75           | 1   | 0.7                                 | 3             | 10                                  |
| 150X015    | 380V, 2P            | 1.5            | 2   | 2                                   | 2             | 20                                  |
| 150X022    |                     | 2.2            | 3   | 2                                   | 3.3           | 20                                  |
| 200X055    | 380V, 4P            | 5.5            | 7.5 | 4                                   | 4.5           | 22                                  |
| 250X075    |                     | 7.5            | 10  | 5.5                                 | 4             | 22                                  |
| 250X011    |                     | 11             | 15  | 8                                   | 4             | 22                                  |
| 250X011    |                     | 11             | 15  | 7                                   | 4.5           | 23                                  |
| 300X015    |                     | 15             | 20  | 8                                   | 6             | 33                                  |



## Mixed Flow Impeller

Mixed flow impeller has a high capacity of fluid and efficiency and is able to transfer a larger volume over its electric power.



# 07. Submersible Sand Pump (Hydraulic)

## Application

Bridge construction, coal, sand and pebbles, and other construction sites

## Feature

- No risk of electric shock by using hydraulic motor
- Equipped with an agitator on the inlet and able to add maximum three more agitators causing it possible to conveniently transfer sand and pebbles on a basin
- Grind transferred matters with 24% chrome steel agitator; maximum durability

| Item                | Content                    |
|---------------------|----------------------------|
| Model               | JSPS                       |
| Caliber             | 80-400mm                   |
| Method of operation | Hydraulic motor            |
| Volume of fluid     | Max. 40m <sup>3</sup> /min |
| Lift head           | Max. 64mH                  |
| Impeller            | Spurt (CHANNEL)            |
| Shaft seal          | M/C SEAL                   |



**Spurt (CHANNEL) Impeller**

It is a modified form of spurt impeller which is suitable for transfer of sand and pebbles.



# 08. Mixed Flow and Axial Pump

## Application

Prevention of flood and heavy rain, drainage of high volume, farm water for irrigation canal, rainwater drainage, etc.

## Feature

- Suitable for handling high volume, monitoring system that detects abnormal operation, convenient to maintenance and repair

| Caliber (mm) | Electric power (kW) | Max volume of fluid (m <sup>3</sup> /h) | Max lift head (m) |
|--------------|---------------------|---|-------------------|
| 350          | 5.5-55              | 1454                                    | 9.9               |
| 500          | 30-132              | 3420                                    | 12                |
| 600          | 30-132              | 5263                                    | 9.7               |
| 700          | 45-185              | 8000                                    | 8.5               |
| 800          | 45-250              | 8152                                    | 9.9               |
| 900          | 110-315             | 12816                                   | 8.17              |
| 1000         | 110-560             | 12600                                   | 15.2              |
| 1200         | 130-400             | 21852                                   | 10.2              |
| 1400         | 250-630             | 27000                                   | 10                |



# 09. Submersible Mixer for Agitation (A Type)

## Application

- Supply of oxygen to fish farm, condensation prevention, and temperature control to maintain an appropriate conditions for fishery
- Agitation of sediments and deposits in wastewater in sewage plant
- Prevention of precipitation of tiny solid matters

## Feature

- Relatively light weight due to compact size and simple constitution
- Easy maintenance by oil exchange through oil plug
- Excellent durability

| Model   | Output (kW) | Number of rotation (RPM) | Volume of fluid (m <sup>3</sup> /min) | Propeller (Dia/mm) |
|---------|-------------|--------------------------|---------------------------------------|--------------------|
| JSM250  | 0.25        | 1800                     | 1.5                                   | 136                |
| JSM400  | 0.4         | 1800                     | 2                                     | 150                |
| SJM750  | 0.75        | 1800                     | 3.4                                   | 180                |
| JSM15JA | 1.1         | 1200                     | 6.5                                   | 254                |
| JSM15JB | 1.5         | 1200                     | 7.4                                   | 254                |
| JSM15AB | 1.5         | 1200                     | 10.5                                  | 300                |
| JSM24JA | 2.4         | 1800                     | 5.8                                   | 220                |
| JSM28A  | 2.8         | 1200                     | 12.9                                  | 300                |
| JSM30A  | 3           | 1200                     | 15                                    | 350                |
| JSM40A  | 4           | 1200                     | 17.2                                  | 350                |
| JSM50A  | 5           | 600                      | 35.5                                  | 525                |
| JSM75A  | 7.5         | 600                      | 43                                    | 525                |
| JSM110A | 10.5        | 328                      | 66.4                                  | 780                |
| JSM150A | 15          | 373                      | 75.7                                  | 780                |



# 10. Submersible Mixer for Agitation (B Type)

## Application

- Pump used for internal recycle in sewage treatment plant
- Transfer of a high volume of fluid

## Feature

- Easy to lift and install
- Control a volume of fluid with inverter motor
- Excellent durability and efficiency from optimal design
- Superior anti corrosion and wear resistance properties by exclusive materials

| Model    | Output (kW) | Number of rotation (RPM) | Volume of fluid (m <sup>3</sup> /min) | Propeller (Dia/mm) |
|----------|-------------|--------------------------|---------------------------------------|--------------------|
| JSM11JAS | 1.1         | 1200                     | 4.2                                   | 220                |
| JSM15JAS | 1.5         | 1200                     | 6.9                                   | 254                |
| JSM24JAS | 2.4         | 1800                     | 5.8                                   | 220                |
| JSM28AS  | 2.8         | 1200                     | 11                                    | 300                |
| JSM40AS  | 4           | 1200                     | 12.8                                  | 300                |
| JSM50AS  | 5           | 600                      | 30.6                                  | 525                |
| JSM75AS  | 7.5         | 600                      | 36.4                                  | 525                |



# 11. Pump Monitoring Unit

## Application

Control of submersible pump and drive protection

## Main Functions

- Operate by controlling water level or pressure
- Auto/manual power switch
- Protection of overload operation
- LCD display of pump operation information
- Prevention of low voltage
- Prevention of idling pump
- Save the data of total operation time

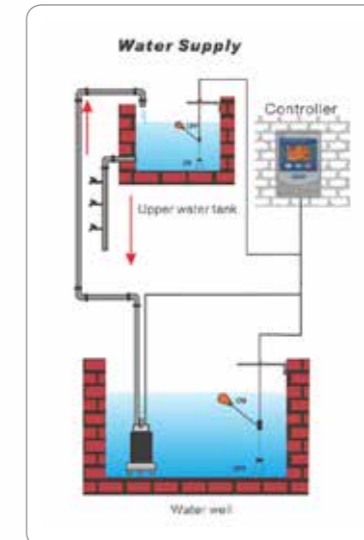
## Specifications

- Operation of overload prevention : approx. 5 sec
- Recovery time for overcurrent : 30 min
- Prevention of idling pump : approx. 5 sec
- Recovery time for prevention of idling pump : 30 min
- Single phase(1kW) / three phase(0.75-4kW)

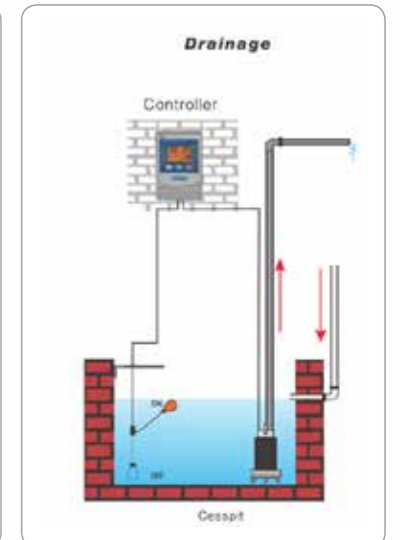
## Installation Environment

- Insulation level : IP20
- Ambient temperature : -25C ~ 55C
- Humidity : 20-90%RH

## Water supply



## Drainage





# 12. Spurt (Channel) Pump

## Application

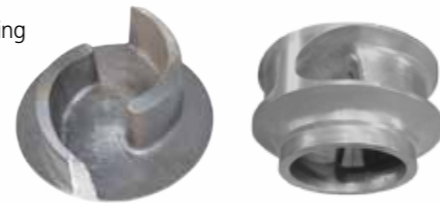
Wastewater, purification plant, sludge, food waste disposal plant, excrement disposal plant, sand and pebbles, paper pulp, chemistry, etc.

## Feature

- Non-clog spurt impeller (explained in images)
- Recommended rate of moisture content: over 95%
- Able to produce portable type for purposes
- V-Belt type

## Spurt (CHANNEL) Impeller

Available to use extra spurt impeller according to use environment and purposes



| Model (mm) | Electric power (kW) | Volume of fluid (m³/h) | Lift head (m) |
|------------|---------------------|------------------------|---------------|
| JH40       | 0.75-3.7            | 30                     | 30            |
| JH50       | 1.5-5.5             | 30                     | 30            |
| JH65       | 2.2-11              | 60                     | 35            |
| JH80       | 3.7-15              | 90                     | 38            |
| JH100      | 5.5-30              | 138                    | 40            |
| JH125      | 11-37.5             | 222                    | 45            |
| JH150      | 15-56.25            | 360                    | 50            |
| JH200      | 22.5-110            | 720                    | 55            |
| JH250      | 30-150              | 840                    | 55            |
| JH300      | 37.5-225            | 1200                   | 55            |
| JH500      | 50-375              | 2000                   | 45            |

## Precautions for design of sewage pipes

Since the fluid in sewage facilities runs slowly and causing less damages inside of pipes, it is important to choose an economical pipes.

|   |                                 |
|---|---------------------------------|
| Scope of fluid speed in discharge pipe              | 2.4-3.7 m/s                     |
| Scope of fluid speed in suction pipe                | 1.2-2.1 m/s                     |
| Scope of fluid speed in header                      | 1.0 (1.5-3 for supply pipe) m/s |
| Scope of fluid speed in vertical pipe               | 1.0-3.0 m/s                     |
| Operation time per year ↓<br>(less than 8h per day) | Below 3.7 m/s                   |
| Operation time per year ↓<br>(less than 8h per day) | Below 2.4 m/s                   |

# 13. Screw Pump

## Screw Impeller (SCREW)

Screw impeller is produced by centrifugal spiral non-clog method, which prevents solid matters being clogged, despite of a change of flow caused by utilization environment. Also it has excellent durability and efficiency.



## Application

Wastewater, purification plant, sludge, food waste disposal plant, excrement disposal plant, sand and pebbles, paper pulp, chemistry, etc.

## Features

- Non-clog screw impeller
- Improved efficiency for 20-30% from existing non-clog pumps
- Excellent wear resistance by high chrome cast iron
- Less change and easy control of fluid volume despite of various changes of pump lift head
- V-Belt type

## Expression $Q = AV \sim V = Q/A$

$Q$  = volume of fluid (m³/hr) /  $A$ , cross section area mm² ( $=\pi D^2/4$ )  
 $D$ , pipe caliber mm /  $V$ , fluid speed of pipes m/sec

Transfer of low water viscosity : 1.5-3.0 m/s  
 Transfer of high oil viscosity : 0.5-2.0m/s

## Examples of pipe size

When the fluid speed is 1.5-3.0m/sec and volume is 2.0 m³ /min,  
**Cross sectional area of pipe =**  
 volume of fluid / speed of fluid / 60/sec/min  
 $2.0 / 2.5 / 60 = 0.0133 \text{ m}^2$   
**Pipe size =** cross sectional area of pipe / 3.14 x 4

| Model (mm) | Electric power (kW) | Max volume of fluid (m³/h) | Max lift head (m) |
|------------|---------------------|----------------------------|-------------------|
| CSP50      | 0.75-3.7            | 30                         | 15                |
| CSP65      | 1.5-5.5             | 48                         | 25                |
| CSP80      | 2.2-11              | 72                         | 27                |
| CSP100     | 3.7-15              | 120                        | 26                |
| CSP125     | 5.5-22.5            | 180                        | 26                |
| CSP150     | 7.5-35              | 360                        | 26                |
| CSP200     | 15-55               | 480                        | 26                |
| CSP250     | 22-90               | 780                        | 22                |
| CSP300     | 30-110              | 1080                       | 19                |
| CSP400     | 67-225              | 2100                       | 17                |

Horizontal



Inline



Movable



Vertical



Horizontal



Vertical

# 14. Heli Max Screw Pump

## Application

Wastewater, purification plant, sludge, food waste disposal plant, excrement disposal plant, sand and pebbles, paper pulp, chemistry, etc.

## Feature

- Integration of non-clog screw impeller and mixed flow impeller
- Highest efficiency and durability among non-clog impeller pumps
- Excellent wear resistance by high chrome cast iron
- Less change and easy control of fluid volume despite of various changes of pump lift head
- Portable equipment appropriate for transfer of precipitator and flood prevention facilities
- V-Belt type

| Model (mm) | Electric power (kW) | Max volume of fluid (m <sup>3</sup> /h) | Max lift head (m) |
|------------|---------------------|---|-------------------|
| CSP300     | 37.5-225            | 1200                                    | 55                |
| CSP600     | 110-450             | 3600                                    | 45                |

## Heli Max Impeller

Heli max screw impeller is a product specialized in transfer of a large volume of high viscosity matters. Especially it is suitable for transfer of wastewater in quantity, and has excellent durability.



# 16. Double Discharge Pump

(Patent registration no. 10-1702327)

## Application

Wastewater, sludge, slurry, paper pulp, chemistry, sand and pebbles, etc.

## Feature

- Integration of non-clog screw impeller and mixed flow impeller
- Highest efficiency and durability among non-clog impeller pumps
- Excellent wear resistance by high chrome cast iron
- Excellent pump performance by double discharge pipe and able to install efficient piping equipment
- Direct connection

| Model (mm) | Electric power (kW) | Max volume of fluid (m <sup>3</sup> /h) | Max lift head (m) |
|------------|---------------------|---|-------------------|
| DDP100     | 5.5-19              | 90                                      | 20                |
| DDP300     | 30-75               | 840                                     | 20                |
| DDP500     | 155-370             | 2100                                    | 30                |



## Spurt Impeller



# 15. Komodo Spurt (Channel) Pump

## Application

Pulp, paper pulp, solid content concentrated sludge, crude oil, etc.

## Features

- Non-clog pump which prevents clogging up by foreign substances with three-dimensional hydraulic impeller
- Transfer of colloid pump
- Suitable for transfer of cellulose concentrated sludge

| Model (mm) | Electric power (kW) | Max volume of fluid (m <sup>3</sup> /h) | Max lift head (m) |
|------------|---------------------|---|-------------------|
| KMD65-60   | 3.7-15              | 25                                      | 40                |
| KMD100-80  | 5.5-11              | 90                                      | 40                |
| KMD125-100 | 7.5-37              | 120                                     | 50                |
| KMD150-125 | 19-45               | 180                                     | 40                |
| KMD200-150 | 37-75               | 420                                     | 35                |
| KMD300-250 | 45-145              | 750                                     | 35                |
| KMD300     | 30-110              | 1080                                    | 19                |
| KMD400     | 67-225              | 2100                                    | 17                |

## Komodo Spurt Impeller

Introduced komodo spurt impeller which is suitable for high lift head and high-concentrated matters



# 17. Double Suction Pump

## Application

Air conditioning, paper pulp equipment, building service, irrigation and water purification, fire prevention

## Feature

Water supply, long distance irrigation in farms, industrial water in plants

| Caliber (mm) |           | Electric power (kW) | Max volume of fluid (m <sup>3</sup> /h) | Max lift head (m) | NSPH (m) |
|--------------|-----------|---------------------|---|-------------------|----------|
| Suction      | Discharge |                     |   |                   |          |
| 200          | 150       | 45-90               | 306                                     | 103               | 6-5.3    |
| 250          | 200       | 30-90               | 540                                     | 71                | 3.8-3.1  |
| 300          | 250       | 37-220              | 900                                     | 93                | 5.5-4.2  |
| 350          | 300       | 55-710              | 1660                                    | 140               | 7.1-5.4  |
| 400          | 350       | 110-560             | 1620                                    | 96                | 5.1-6.2  |
| 500          | 400       | 110-800             | 2340                                    | 114               | 5.7-4.1  |
| 600          | 500       | 180-1250            | 3600                                    | 110               | 7-6      |
| 800          | 700       | 250-1250            | 6000                                    | 70                | 7-4.2    |

## Double Suction Impeller

High efficiency from bearing precision, and suitable for transfer of large volume of lift head fluid



# 18. Slurry Pump (Warman Type)

## Application

Slurry, waste disposal, paper pulp, steel slurry, water supply for settling tank, cement treatment liquid, sand and pebbles

## Feature

- Design of appropriate constitution for slurry transfer
- Combination of chrome, urethane, and rubber, for optimized design for slurry transfer and reinforcement of durability

| Item                 | Content                     |
|----------------------|-----------------------------|
| Caliber              | 25-450                      |
| Volume of fluid      | 0.18-108m <sup>3</sup> /min |
| Lift head            | Max. 125mH                  |
| Liner (Inner Casing) | Chrome, rubber, urethane    |



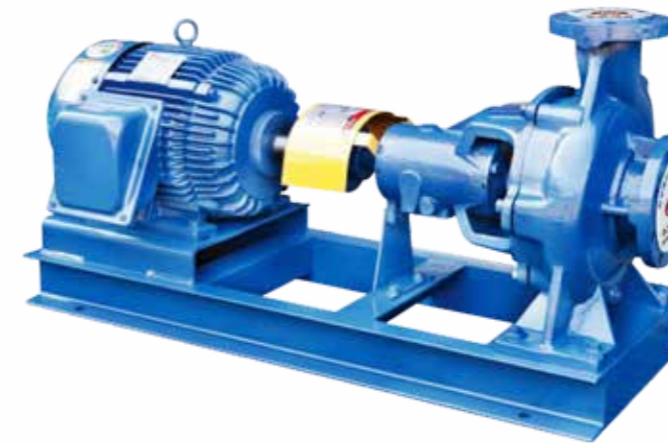
# 19. Volute Pump

## Application

Water supply, industrial use, chemical industry, home use, water supply plant, building, water treatment, and air conditioning circulation

## Feature

- Three-dimensional hydraulic rotor
- Disassembly and inspection without removing suction/discharge pipes
- Wide range and excellent operation properties



| Caliber (mm) |           | Electric power (kW) | Max volume of fluid (m <sup>3</sup> /h) | Max lift head (m) |
|--------------|-----------|---------------------|---|-------------------|
| Suction      | Discharge |                     |   |                   |
| 40           | 32        | 0.75-1.5            | 12                                      | 20                |
| 50           | 40        | 1.5-3.7             | 24                                      | 30                |
| 65           | 50        | 1.5-11              | 42                                      | 46                |
| 80           | 65        | 3.7-15              | 72                                      | 42                |
| 100          | 80        | 5.5-22              | 108                                     | 44                |
| 125          | 100       | 7.5-55              | 180                                     | 75                |
| 150          | 125       | 11-90               | 300                                     | 75                |
| 200          | 150       | 22-75               | 480                                     | 44                |
| 250          | 200       | 75-110              | 840                                     | 48                |

# 20. Vortex Pump

## Application

Wastewater, water purification plant, sludge, food waste disposal plant, excrement disposal plant, etc.

## Feature

- Vortex impeller
- Suction caliber 30% of solid matter transfer track

| Caliber (mm) |           | Electric power (kW) | Max volume of fluid (m <sup>3</sup> /h) | Max lift head (m) |
|--------------|-----------|---------------------|---|-------------------|
| Suction      | Discharge |                     |   |                   |
| 40           | 32        | 1.5-2.2             | 12                                      | 20                |
| 50           | 40        | 2.2-3.7             | 24                                      | 20                |
| 65           | 50        | 3.7-5.5             | 42                                      | 20                |
| 80           | 65        | 5.5-7.5             | 78                                      | 20                |
| 100          | 80        | 11-19               | 150                                     | 25                |
| 125          | 100       | 19-30               | 210                                     | 28                |



# 21. Wesco Pump

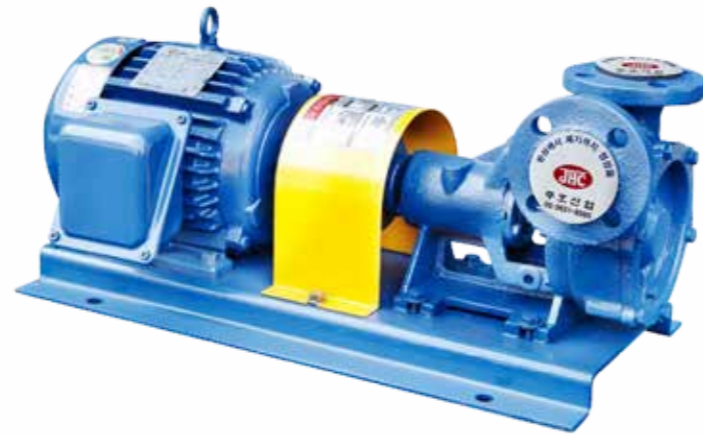
## Application

Water supply for boiler, auxiliary fireplug, auxiliary equipment for sprinkler

## Feature

- Able to supply water at 80°C
- Single-stage pump high pressure

| Caliber (mm) |           | Electric power (kW) | Max volume of fluid (m <sup>3</sup> /h) | Max lift head (m) |
|--------------|-----------|---------------------|---|-------------------|
| Suction      | Discharge |                     |   |                   |
| 40           | 40        | 2.2-7.5             | 4.8                                     | 110               |
| 50           | 50        | 5.5-15              | 7.2                                     | 135               |



# 22. Multi-Stage Turbine Pump

## Application

Water supply, fire prevention

## Feature

- Excellent fluid lift head and efficiency by turbine type multi-stage pump

| Caliber (mm) |           | Electric power (kW) | Max volume of fluid (m <sup>3</sup> /h) | Max lift head (m) |
|--------------|-----------|---------------------|---|-------------------|
| Suction      | Discharge |                     |   |                   |
| 40           | 32        | 3.7-15              | 12                                      | 125               |
| 50           | 40        | 5.5-22              | 18                                      | 130               |
| 65           | 50        | 5.5-22              | 21                                      | 120               |
| 80           | 65        | 7.5-30              | 54                                      | 125               |
| 100          | 80        | 15-90               | 72                                      | 200               |
| 125          | 100       | 30-130              | 102                                     | 200               |
| 150          | 125       | 75-187              | 150                                     | 200               |
| 200          | 150       | 110-260             | 300                                     | 180               |



# 23. Fire Extinguishing Pump

## Application

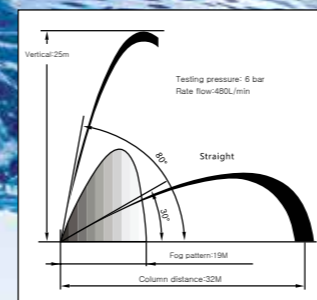
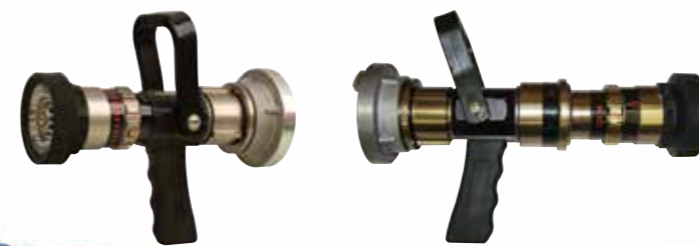
Portable fire prevention pump

## Feature

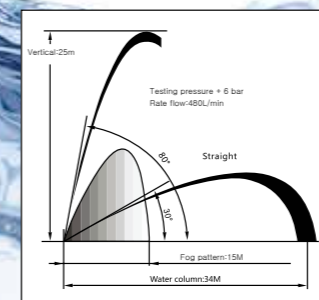
- Equipped with diesel/gasoline engine, portable fire prevention pump
- Capable of self-priming at maximum 7m with installed hydraulic charging vacuum pump
- Able to set unlimited length of emission with unlimited cascade connection

| Category | Type                   | JBJ7GL                            | JBJ10A  | JBQ11BS          |
|----------|------------------------|-----------------------------------|---|------------------|
| Engine   | Cylinder               | 4-stroke                          | 4-stroke  | 4-stroke         |
|          | Type                   | LIFAN LF177F                      | HONDA GX390   | Vanguard         |
|          | Fuel                   | Gasoline                          | Gasoline  | Gasoline         |
|          | Output                 | 6.7kW                             | 9.6kW   | 30kW             |
| Pump     | Method of starting up  | Recoil, Electric                  | Recoil, Electric  | Recoil, Electric |
|          | Method of self-priming | Vacuum pump                       | Vacuum pump   | Vacuum pump      |
|          | Maximum suction        | 8M                                | 8M  | 9M               |
|          | Suction caliber        | 65mm                              | 65mm  | 80mm             |
|          | Discharge              | 65mm                              | 65mm  | 65mm             |
|          | Lift head              | 70M                               | 76M   | 145M             |
|          | Volume of fluid        | 60GPM                             | 158GPM  | 250GPM           |
|          | Weight                 | 43kg(Dry)                         | 51kg(Dry)   | 84kg(Dry)        |
| Feature  | Light weight type      | Light weight and high performance | High performance Automatically operate when detecting power outage fire |                  |

## Types of nozzle



6-25bar pressure control



150-480L control of fluid volume

