**DUKJI Industrial Co., Ltd.**

**Development (발전)**
- Positive mission to create the future and create an environment of growth

**Unique (독특한)**
- Unique technology to develop an environment of growth

**Kindness (친절)**
- Support and appreciate the environment of growth

**Joyful (즐거운)**
- Always happy to create an environment of growth

**Innovation (개혁)**
- Develop and introduce a new environment of growth

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**1988. 04.** Established company (company name: DUKJI Industrial)

**1990. 02.** Registered at Korean Association of Machinery Industrial (#06-305-1051)
- Registered the qualification for tender of POSCO (B level) (Manufacture #265)
- Registered at Incheon/Gyeonggi Association of Machinery Industrial Association (#90-5)
- Awarded the development tower of excellent machine (KAMI)
- Took out a patent for an invention (Pump) (#52874)

**1993. 03.** Contraction of repair and unit cost with POSCO Gwangyang iron works
- Change to corporation - Company name: Dukji Industrial Co., Ltd.
- Awarded the commendation of ministry of commerce (Best material development)
- Designated the best supply company from POSCO (Mechanical parts)
- Designated as one of the hundred promising small and medium-size enterprises (Provincial governor)
- Awarded the commendation from president of KOREA (Science technology)

**1997. 03.** Certified ISO 9001 quality system (KSA-QA)
- Designated as the best technology industrial from Korean Technology Credit Guarantee Fund

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**Forward to the Future & World with DUKJI**
Greetings

I would like to express my heartfelt gratitude to the customers of Dukji Industrial’s for being with us and encouraging us with care and love since the foundation in 1988.

Since inception, Dukji Industrial has localized many number of imported pumps and acquired valuable experiences over the course of researching, developing pumps and growing together with customers.

Today, we are proud to be the leader in both the domestic and global market with a stronger market presence of “Made in Korea” pumps. Our products are known for high quality, high efficiency, and huge energy savings, and free of noise and vibration.

Going forward, we promise to take full advantage of the operation speed, which is the key competitive edge of smaller companies, to expand ourselves beyond the domestic market and globalize the local pumps.

Dukji Industrial will continue to be at your side listening to your voices, however small, at all times and reflecting your demands at all times.

Your critical comments and opinions will never go unheard of and will be respected in every area of the business we commit to.

Thank you.

Representative Director  
Kim Jong Soo
ANSI B73.1M PROCESS PUMP

**Use**
Chemical process, petrochemical industry, petroleum refineries, other chemical industries, etc.

**Specification**
- Capacity: ~ 1000 m³/hr
- Head: ~ 230 m
- Bore: ø25 ~ ø250

**Special feature**
- Full compliance with ANSI B73.1M standard
- High efficiency and low NPSHr with precise casting of open type impeller
- Easy assembly with BACK PULL-OUT structure
- Gap adjustment of impeller is possible by minutely control of bearing housing
- Heavy Duty Design

API 610 PROCESS PUMP

**Use**
Petroleum refining/ Petrochemical.
High temperature applications.
General industrial requiring high temperature or high pressures

**Specification**
- Capacity: ~ 500 m³/Hr
- Head: ~ 250 m
- Temperature: ~ 350 °C

ISO 2858 GENERAL PUMP

**Use**
Use Industrial process, chemical industry, water treatment, other manufacturing industry, etc.

**Specification**
- Capacity: ~ 800 m³/hr
- Head: ~ 100 m
- Bore: ø32 ~ ø250

**Special feature**
- Full compliance with ISO 2858 standard
- High efficiency with close type impeller
- Easy assembly with BACK PULL-OUT structure
- Heavy Duty Design

DOUBLE SUCTION VOLUTE PUMP

**Use**
Industry process, water delivery and irrigation, utility and marine use.

**Specification**
- Capacity: ~ 10,000 m³/hr
- Head: ~ 200 m
- Bore: ø200 ~ ø1500

**Special feature**
- High suction capacity caused by double suction
- High quantity transportation and high efficiency
- Assure balance with symmetrical structure
- Easy installation with horizontal split casing structure
### MODEL DMS  HIGH PRESSURE MULTI-TURBINE PUMP

**Use**
Water supply for boiler, water service facilities, industrial water and normal pressure equipment, fire extinguishing and construction facilities.

**Specification**
- Capacity: ~ 400 m³/hr
- Head: ~ 1000 m
- Bore: φ25 ~ φ200

**Special feature**
- Suitable for high head of pump due to the multi stage of impeller
- High efficiency with close type impeller
- Prevention of shaft thrust by both sides supporting with shaft sealing system and bearing

### MODEL DSPA  ANSI SELF-PRIMING PROCESS PUMP

**Use**
Process, general chemical industry, drainage and other various industries, etc.

**Specification**
- Capacity: ~ 800 m³/hr
- Head: ~ 100 m
- Bore: φ40 ~ φ200

**Special feature**
- Self-priming pump driving automatically
- Easy assembly with BACK PULL-OUT structure
- Heavy Duty Design

### MODEL DSW  NON-CLOG SCREW CENTRIFUGAL PUMP

**Use**
Sewage disposal plant and wastewater treatment plant, transportation of fish and shellfish, pulp hides transportation, coal powered coal transportation, and high-density slurry transportation for various industries.

**Specification**
- Capacity: ~ 2000 m³/hr
- Head: ~ 40 m
- Bore: φ50 ~ φ450

**Special feature**
- Screw impeller structure can transfer every solid without blocking
- In case of repair maintenance, it is possible to confirm inside of casing through inspection hole on the casing easy assembly with BACK PULL-OUT structure
- Heavy Duty Design

### MODEL DWM  NON-CLOG ABRASIVE SLURRY PUMP

**Use**
Facilities for desulfurization of thermoelectric power plant, Picking up sand and gravel, Slurry transportation for other industries.

**Specification**
- Capacity: ~ 7200 m³/hr
- Head: ~ 85m
- Bore: φ25 ~ φ800

**Special feature**
- It is possible to change liquid-end parts caused by abrasion
- Impeller structure of Non-Clog type with strong anti-slurry characteristic
- Heavy Duty Design
- Double Casing Type
### Vertical Sump Pit Process Pump

**Model:** DVS, NPVL

**Use:**
- Chemical industry, general industry, water treatment and other industry, etc.
- Transportation of acidic, alkaline solutions, circulation pump for scrubber, spray pump for etching.

**Specification:**
- Capacity: ~ 600 m³/hr
- Head: ~ 80 m
- Bore: \( \geq 25 \) ~ \( \leq 250 \)

**Special feature:**
- Simple design and easy handling by vertical type
- Only casing and impeller are installed on lower part
- Structure connected with motor of upper part through the column pipe
- Hi-Dupolite material makes high corrosion resistance and heat-resisting property
- Complete standardization with precise forming of all parts
- Easy maintenance of pump with Non-Seal, No-Packing structure

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### Slurry Sump Pump

**Model:** DVS-SM/SMR

**Use:**
- Sump drainage / washdown, Floor drainage, Mill sumps, Carbon transfer

**Specification:**
- Capacity: ~ 500 m³/hr
- Head: ~ 50 m
- Bore: \( \geq 40 \) ~ \( \leq 200 \)

**Special feature:**
- The DVS-SM and SMR designs, manufactured in popular metric sizes, provide a simple, yet rugged of sump pumps specially developed for:
  - Large particle size, High slurry density

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### Hi-Dupolite (FRP) Centrifugal Pump

**Model:** MSHF

**Use:**
- Transportation of various chemicals (Hydrochloric acid, sulphuric acid, ferric Chloride, chromate, Hydrofluoric acid and alkaline solutions, etc), petrochemical industry, pharmaceutical industry and dyeing, food industry, wastewater treatment, other industry, etc.

**Specification:**
- Capacity: ~ 600 m³/hr
- Head: ~ 60 m
- Bore: \( \geq 25 \) ~ \( \leq 250 \)

**Special feature:**
- Hi-Dupolite material makes high corrosion resistance and heat-resisting property
- Complete standardization with precise forming of all parts
- Easy assembly and maintenance with BACK PULL-OUT structure

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### Hi-Dupolite (FRP) Self-Priming Pump

**Model:** MSHS

**Use:**
- Chemicals industry, transportation for PIT solution of general industry, wastewater treatment, other industry, etc.

**Specification:**
- Capacity: ~ 500 m³/hr
- Head: ~ 50 m
- Bore: \( \geq 25 \) ~ \( \leq 250 \)

**Special feature:**
- Self-priming pump driving automatically
- Hi-Dupolite material makes high corrosion resistance and heat-resisting property
- Complete standardization with precise forming of all parts
- Easy assembly and maintenance with BACK PULL-OUT structure
**MODEL DMNP, MODEL DMAP**

**SEALEASE MAGNETIC-DRIVE PUMP**

**Use**

Precision chemical industry, petrochemical industry, semiconductor industry, etc.

**Specification**

- Capacity: ~ 150 m³/hr
- Head: ~ 50 m
- Bore: φ25 ~ φ100

**Special feature**

- No leakage: Perfect sealing by strong magnet coupling
- Saving cost for maintenance: Because there is no shaft sealing system, cost can be saved regarding sealing delivery and change
- Easier maintenance: Back Pull-Out structure
- Easier exchange of parts: It is easy to be delivered by localization and standardization of all parts

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**MODEL NPVO**

**HI-DUPOLITE (FRP) VERTICAL NON-SEAL PUMP**

**Use**

Transportation of various chemicals (Hydrochloric acid, sulphuric acid, ferric Chloride, chromate, Hydrofluoric acid and alkaline solutions, etc), dust collector, circulation filtration etching for plating solution, acid washing and hides dye house.

**Specification**

- Capacity: ~ 450 m³/hr
- Head: ~ 50 m
- Bore: φ25 ~ φ250

**Special feature**

- Hi-Dupolite material makes high corrosion resistance and heat-resisting property
- Complete standardization with precise forming of all parts
- Easy maintenance of pump with Non-Seal, No-Packing structure

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**MODEL DVX**

**VORTEX PUMP**

**Use**

Sludge transportation of sewage disposal plant and wastewater treatment plant, transportation for sewage water deposit of general industry, water treatment, etc.

**Specification**

- Capacity: ~ 600 m³/hr
- Head: ~ 50 m
- Bore: φ32 ~ φ250

**Special feature**

- Basic principle making vortex by fluid flow in the casing
- It is possible to drive normally in case of some sludge due to the enough flow passage of casing volute
- Easy assembly with BACK PULL-OUT structure
- Heavy Duty Design

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**MODEL DFV**

**VERTICAL MIXED / AXIAL PUMP**

**Use**

Drainage and water service facilities with high flow rate, irrigation, water supply for other industry, etc.

**Specification**

- Capacity: ~ 18,000 m³/hr
- Head: ~ 60 m
- Bore: φ250 ~ φ1500

**Special feature**

- Casing with vertical pipe type separated to cylindrical direction
- Easy installation due to small-occupied space
- Automatic driving and remote control are possible with casing and impeller installed on lower part
**VERTICAL MULTI-STAGE PUMP**  MODEL DVSM / DFVM

- **Use**
  - Industrial sewage or wastewater including effluent.
  - Industrial drainage when pumping contains solid or stringy material
  - Seawater & river intake to amusement park

- **Specification**
  - Capacity : ~ 900 m³/hr
  - Head : ~ 300 m
  - Depth : ~ 10 m

**IN-LINE PUMP**  MODEL DIL

- **Use**
  - Feed Water, Booster, Cooling & Warming Water, Condensate system
  - Industrial, agricultural products service.

- **Specification**
  - Capacity : ~ 4.5 m³/hr
  - Head : ~ 60 m

**SUBMERGED PUMP**  MODEL TSE / TWS

- **Use**
  - Industrial sewage or wastewater including effluent.
  - Industrial drainage when pumping contains solid or stringy material
  - Seawater & river intake to amusement park

- **Specification**
  - Capacity : 1,800m³/hr
  - Head : 150m
  - Bore : ø50 ~ ø500

- **Special feature**
  - Double mechanical seal with silicon carbide face
  - Semi open & non clog solid handling impeller
  - High efficient cooling water, copper wound motor with class F insulation.
  - Double shield lubricate high temperature ball bearing
  - Watertight cable entrance

**WESTCO PUMP**  MODEL DWC

- **Use**
  - Lower flow, High pressure

- **Specification**
  - Capacity : ~ 16 m³/hr
  - Head : ~ 200 m
**MODEL NPVP  PERMANENT PECULIAR SEAL PUMP**

**Use**
Transportation of various chemicals (Hydrochloric acid, sulphuric acid, ferric Chloride, chromate, Hydrofluoric acid and alkaline solutions, etc), wastewater treatment facilities, dust collector, circulation filtration etching for plating solution, acid washing and hides dye house.

**Specification**
- Capacity : ~ 450 m³/hr
- Head : ~ 50 m
- Bore : ϕ25 ~ ϕ250

**Special feature**
- Solving the installation problem by using special seal
- Saving cost for maintenance due to permanent use of the mechanical seal
- Special parts make no leakage during driving

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**MODEL MSHP  ENGINEERING PLASTIC PUMP**

**Use**
Transport for various chemicals, Pulp, fiber Industries pharmaceutical Industry plastic, rubber Industry Dyeing & leather Industry.

**Specification**
- Capacity : ~ 150 m³/hr
- Head : ~ 60 m
MODEL DAP  ANSI B73.1M PROCESS PUMP

APPLICATION
- Use of chemical process
- Petrochemical industry
- Petroleum refineries
- Other chemical industries

FEATURES
- Full compliance with ANSI B73.1M standard
- High efficiency and low NPSHr with precise casting of open type impeller
- Easy assembly with BACK PULL-OUT structure
- Gap adjustment of impeller is possible by minutely control of bearing housing
- Heavy Duty Design

MATERIAL
- Cast Iron
- Stainless Steel
- Duplex, Super Duplex
- Special alloy (ALLOY-20, HASTELLOY, TITANIUM)

STANDARD SPECIFICATION
- Capacity: ~ 1000m³/hr
- Head: ~ 230 m
- Bore: ø25 – ø250
- Impeller type: Open (Precision casting)
- Rotation: C.W (Viewed from drive end.)
- Shaft sealing: Mechanical seal & Gland packing
- Lubrication: Oil Bath Type
- Labyrinth Oil-seal type
- Sure-Flex Spacer Coupling (Urethane)

MODEL DESIGNATION

MODEL DAP  ANSI B73.1M PROCESS PUMP

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MODEL DESIGNATION

DAP 4 3 13

PUMP MODEL SUCTION SIZE (inch) DISCHARGE SIZE (inch) IMPELLER DIA. (inch)
* Performance range shown on these chart are preliminary selection only
## OUTLINE DIMENSION DRAWING (INDUSTRIAL & PLANT TYPE)

<table>
<thead>
<tr>
<th>MODEL</th>
<th>BORE (mm)</th>
<th>POWER (kW)</th>
<th>PUMP &amp; MOTOR</th>
<th>BASE PLATE</th>
<th>PUMP &amp; BASE</th>
<th>WEIGHT (Kg)</th>
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<tbody>
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<td>7.5</td>
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*Baseplate Mounting*
## OUTLINE DIMENSION DRAWING (ANSI B 73.1M STANDARD)

![Outline Dimension Drawing](image)

### Group Model

<table>
<thead>
<tr>
<th>Group</th>
<th>Model</th>
<th>BORE</th>
<th>PUMP</th>
<th>WEIGHT(Kg)</th>
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<td>1 GROUP</td>
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### Max. NEMA Frame

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<th>B2</th>
<th>B3</th>
<th>B4</th>
<th>B5</th>
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#### DAP Group 1
- M/Seal Size : 1.375” (43.4, 50.8)  
- BRG. : 630 x 1, 530 x 1

#### DAP Group 2
- M/Seal Size : 1.875” (54.7, 63.5)  
- BRG. : 631 x 1, 531 x 1

#### DAP Group 3
- M/Seal Size : 2.0” (50.8, 56.0)  
- BRG. : 631 x 1, 531 x 1
### ANSI PROCESS PUMP SEAL CHAMBER (STUFFING BOX)

**CHAMBER FOR PROJECTION RING (ROTATING RING CHAMBER)**
When built-in single seal without outer water supplying ANSI PLAN 7311, improve self circulation efficiency by rotating ring structure in seal chamber.

**STANDARD CHAMBER FOR SINGLE SEAL (SINGLE SEAL STANDARD CHAMBER)**
When built-in single seal & packing, apply self-sealing and water inlet piping for facilities available. Shown on ANSI PLAN 7311, 7332.

**STANDARD CHAMBER FOR DOUBLE SEAL (DOUBLE SEAL STANDARD CHAMBER)**
When built-in double seal. Shown on ANSI PLAN 7352, 7353, 7354.

### DAPL (LOW FLOW PUMP)

- Minimal thrust loads
- Reduced NPSH requirements
- Low seal chamber pressures
- Longer seal and bearing life

### DAPX (EXPELLER TYPE PUMP)

- Eliminate use of seal water
- Eliminate pumpage contamination and product dilution
- Reduce utility cost
- Eliminate need to treat seal water
- Considerably less expensive than a slurry mechanical seal

### OPTION

- Jacketed Casing
- Centerline Mounting
API PLAN No. 02

What: Dead-ended seal chamber with no flush.

Why: Simplicity—no environmental controls.

Where: Large bore/open throat seal chambers in moderate temperature services.
- Cooling jacket seal chambers in high temperature services.
- Clean fluids.
- Top-entry mixers/agitators with dry seal

Preventative Maintenance
- Process must have adequate boiling point margin to avoid vaporization.
- Cooling fluid in seal chamber jacket may be needed at all times in hot services.
- Often used in combination with steam quench, Plan 62.

API PLAN No. 11

What: Seal flush from pump discharge through orifice.
- Default single seal flush plan.

Why: Seal chamber heat removal.
- Seal chamber venting on horizontal pumps.
- Increase seal chamber pressure and fluid vapor margin.

Where: General applications with clean fluids.
- Clean, non-polymerizing fluids.

Preventative Maintenance
- Use an orifice with a minimum 0.125" (3 mm) diameter.
- Calculate flow rates to size orifice for adequate seal chamber flow.
- Increase boiling point margin with proper orifice and throat bushing sizing.
- Typical failure mode is a clogged orifice - check temperatures at pipe ends.

API PLAN No. 13

What: Recirculation from seal chamber to pump suction through orifice.
- Standard flush plan on vertical pumps.

Why: Continuous seal chamber venting on vertical pumps.
- Seal chamber heat removal.

Where: Vertical pumps.
- Seal chamber pressure is greater than suction pressure.
- Moderate temperature fluids with moderate solids.
- Non-polymerizing fluids.

Preventative Maintenance
- Vent piping loop prior to starting vertical pumps.
- Use an orifice with a minimum 0.125" (3mm) diameter.
- Calculate flow rates to size orifice for adequate seal chamber flow.
- Reduce seal chamber pressure with proper orifice and throat bushing sizing.
- Typical failure mode is a clogged orifice - check temperatures at pipe ends.

API PLAN No. 21

What: Seal flush from pump discharge through orifice and cooler.
- Cooler in Plan 11 flush increases heat removal.

Why: Seal cooling.
- Reduce fluid temperature to increase fluid vapor margin.
- Reduce coking.

Where: High temperature service, typically less than 350°F (177°C).
- Hot water over 180°F (80°C).
- Clean, non-polymerizing fluids.

Preventative Maintenance
- Seal cooler and piping must have air vents at highest elevation-vent before starting.
- When using 682 Seal Cooler, pipe with series flow to maximize heat transfer.
- Use an orifice with a minimum 1/8" (3mm) diameter.
- Calculate flow rates to size orifice for adequate seal chamber flow.
- Increase boiling point margin with proper orifice and throat bushing sizing.
- Regularly monitor device inlet and outlet temperatures for signs of clogging or fouling.
What Seal flush from internal pumping device through cooler.
Standard flush plan in hot water services.

Why Efficient seal cooling with low cooler duty.
Increase fluid vapor margin.
Improve water lubricity.

Where High temperature service, hot hydrocarbons.
Boiler feed water and hot water over 180°F (80°C).
Clean, non-polymerizing fluids.

Preventative Maintenance - Reference Appendix A
Seal cooler and piping must have air vents at highest elevation-vent before starting.
When using 682 Seal Cooler, pipe with parallel flow to minimize head loss.
Seal chamber requires close clearance throat bushing to isolate process fluid.
Tangential seal gland taps should enter at bottom and exit at top.
Regularity monitor cooler inlet and outlet temperatures for signs of plugging or fouling.
Process fluids with iron should flow through magnetic separator before cooler.

What Seal flush from an external clean source.

Why Seal chamber heat removal.
Process and solids removal from seal chamber.
Increase seal chamber pressure and fluid vapor margin.

Where Dirty or contaminated fluids, paper pulp.
High temperature service.
Polymerizing and/or oxidizing fluids.
Preventative Maintenance
Use throat bushing sized to hold pressure or maintain flow velocity.
To restrict dirty process fluid, regulate injection flow rate.
To increase fluid vapor margin, regulate injection pressure.
Injection fluid must be compatible with process fluid.
Regularly monitor control system for closed valves or signs of plugging.

What Unpressurized buffer fluid circulation through reservoir.
Fluid is circulated by a pumping ring in the dual seal assembly.

Why Outboard seal acts as a safety backup to the primary seal.
Zero to very low process emissions.
No process contamination is allowed.

Where Used with dual unpressurized seals ("tandem").
High vapor pressure fluids, light hydrocarbons.
Hazardous/toxic fluids.
Preventative Maintenance - Reference Appendix B
Piping loop must self-vent to vapor recovery/flare system near atmospheric pressure.
Process vapor pressure is generally greater than reservoir pressure.
Buffer fluid must be compatible with process leakage.
Primary seal leakage is indicated by increased vent pressure.
Reservoir level gage indicates outboard seal leakage.

What Pressurized barrier fluid circulation by external system.

Why Isolate process fluid.
Zero process emissions.
Seal cannot induce circulation.

Where Used with dual pressurized seals ("double").
High vapor pressure fluids, light hydrocarbons.
Hazardous/toxic fluids.
Heat transfer fluids.
Dirty/abrasive or polymerizing fluids.
Mixers/agitators.
Preventative Maintenance
Piping loop must be fully vented before starting.
Circulating system must be pressurized and energized at all times.
Barrier fluid must be compatible with process.
Circulating system level gage indicates both inboard and outboard seal leakage.
MODEL DGP  ISO 2858 GENERAL PUMP

APPLICATION
Industrial process, chemical industry, water treatment other manufacturing industry, etc

FEATURES
- Full compliance with ISO 2858 standard
- High efficiency with close type impeller
- Easy assembly with BACK PULL-OUT structure, spacer coupling (Optional)
- Heavy Duty Design

STANDARD SPECIFICATION
- Capacity : ~ 800 m³/hr
- Head : ~ 100 m
- Bore : φ32 ~ φ250
- Impeller Type : Close
- Rotation : C.W (Viewed from drive end.)
- Shaft sealing : Mechanical seal & Gland packing
- Lubrication : Grease & Oil Bath Type

MATERIAL
- Cast Iron
- Stainless Steel
- Duplex, Super Duplex
- Special alloy (ALLOY-20, HASTELLOY, TITANIUM, Hi-Cr)

APPLICATION
Industrial process, chemical industry, water treatment other manufacturing industry, etc

FEATURES
- Full compliance with ISO 2858 standard
- High efficiency with close type impeller
- Easy assembly with BACK PULL-OUT structure, spacer coupling (Optional)
- Heavy Duty Design

MATERIAL
- Cast Iron
- Stainless Steel
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- Special alloy (ALLOY-20, HASTELLOY, TITANIUM, Hi-Cr)

SELECTION CHART

MODEL DESIGNATION
- DGP
- 5
- 4
- 25

PUMP MODEL
SUCTION SIZE (mm)
DISCHARGE SIZE (mm)
IMPELLER DIA. (mm)

* Performance range shown on these chart are preliminary selection only
### OUTLINE DIMENSION DRAWING

**Baseplate Mounting**

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**Notes:**
- BORE: Diameter of the bore of the motor base plate
- POWER: Nominal power of the motor
- PUMP & MOTOR: Dimensions of the motor
- BASE PLATE: Dimensions of the base plate
- PUMP & BASE: Dimensions of the pump and base
- WEIGHT: Total weight

**Dimensions:**
- M: Motor MOUNTING DIMENSION
- P: Pump SHOWN MOUNTING DIMENSION
- B1, B2, B3, B4: Base PLATE DIMENSIONS
- B5: Weight

**Additional Information:**
- Dukjico.kr: Manufacturer's website

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**Image:**
- Baseplate Mounting diagram

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**Diagram:**
- Suction and Discharge connections
- Dimensions for mounting and installation

---

**Table:**
- Comparative data for different models
- Units: mm

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**Reference:**
- Dukji Industrial Co., Ltd.
- www dukji co.kr
SECTIONAL DRAWING

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OPTION: LABYRINTH TYPE
DGP Group A
- M/Seal Size : Ø30
- BRG. : 6306ZZ C3 x 1, 6306ZZ C3 x 1 (GREASE)
- BRG. : 6306 C3 x 1, 6306 C3 x 1 (OIL)

DGP Group B
- M/Seal Size : Ø40
- BRG. : 6308ZZ C3 x 1, 6308ZZ C3 x 1 (GREASE)
- BRG. : 6308 C3 x 1, 6308 C3 x 1 (OIL)

DGP Group C
- M/Seal Size : Ø50
- BRG. : 6310ZZ C3 x 1, 5311ZZ C3 x 1 (GREASE)
- BRG. : 6310 C3 x 1, 5311 C3 x 1 (OIL)

DGP Group D
- M/Seal Size : Ø70
- BRG. : 6314Z C3 x 1, 6314Z C3 x 1 (GREASE)
- BRG. : 6314 C3 x 1, 6314 C3 x 1 (OIL)
# MODEL DSV
## DOUBLE SUCTION VOLUTE PUMP

### APPLICATION
Industry process, water delivery and irrigation, utility and marine use

### FEATURES
- High suction capacity is caused by double suction
- High quantity transportation and high efficiency
- Assure balance with symmetrical structure
- Easy installation with horizontal split casing structure

### MATERIAL
- Cast Iron
- Stainless Steel (304, 316, 316L)
- Duplex, Super Duplex
- Special alloy (ALLOY-20, HASTELLOY)

### STANDARD SPECIFICATION
- Capacity : ~ 10,000 m³/hr
- Head : ~ 200 m
- Bore : ø200 ~ ø1500
- Impeller type : Close
- Rotation : C.W (Viewed from drive end.)
- Temperature : ~ 120°C
- Shaft sealing : Mechanical seal & Gland packing

### MODEL DESIGNATION

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MODEL DMS  
HIGH PRESSURE MULTI-TURBINE PUMP

APPLICATION
- Boiler feed water
- Processing water
- City water and high pressure water in general

FEATURES
- High efficiency over a wide range
- Highly reliable components
- Simple construction permits easy maintenance
- Suitable for low NPSH operation
- Compact and inexpensive
- Short-term delivery

MATERIAL
- Cast Iron
- Stainless Steel (304, 316, 316L)
- Special alloy (CN7M, CW-6M)

STANDARD SPECIFICATION
- Capacity: ~ 400 m³/hr
- Head: ~ 1000 m
- Bore: φ32 ~ φ250
- Maximum allowable operation pressure:
  - To 110kgf/cm²
- Maximum allowable suction pressure:
  - To 25kgf/cm²
- Hydrostatic test pressure: To 150kgf/cm²
- Speed: 1750 or 3550 min⁻¹
- Rotation: C.W (Viewed from drive end.)
- Temperature: ~180 °C
- Impeller type: Close
- Flange: Rating - Suction KS 10kgf/cm²,
  Discharge KS 40kgf/cm²
  other standards also available
  Location - Side Suction, Top Discharge,
  Top Suction, Side Discharge
- Shaft sealing: Mechanical seal & Gland packing

MODEL DESIGNATION

DMS 80 65 5S
PUMP MODEL
SUCTION SIZE (mm)
DISCHARGE SIZE (mm)
STAGE
### SECTIONAL DRAWING

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* NO. 130, 200 : Each part’s quantity depends on specification
MODEL DSPA ANSI SELF-PRIMING PROCESS PUMP

APPLICATION
- Process, general chemical industry, drainage and other various industries, etc

FEATURES
- Self-priming pump driving automatically
- Easy assembly with BACK PULL-OUT structure
- Heavy Duty Design

MATERIAL
- Cast Iron
- Stainless Steel
- Duplex, Super Duplex
- Special alloy (ALLOY-20, HASTELLOY, TITANIUM)

STANDARD SPECIFICATION
- Capacity : ~ 800 m³/hr
- Head : ~ 100 m
- Bore : φ40 ~ φ200
- Impeller type : Open (Precision casting)
- Rotation : C.W (Viewed from drive end.)
- Shaft sealing : Mechanical seal
- Lubrication : Oil Bath Type
- Labyrinth Oil-seal type
- Spacer Coupling

APPLICATION
- Process, general chemical industry, drainage and other various industries, etc

FEATURES
- Self-priming pump driving automatically
- Easy assembly with BACK PULL-OUT structure
- Heavy Duty Design

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- Head : ~ 100 m
- Bore : φ40 ~ φ200
- Impeller type : Open (Precision casting)
- Rotation : C.W (Viewed from drive end.)
- Shaft sealing : Mechanical seal
- Lubrication : Oil Bath Type
- Labyrinth Oil-seal type
- Spacer Coupling

PRIMING
Dual volute design primes suction with only an initial charge of liquid in the casing. During priming cycle, the lower volute functions as an intake while upper volute discharges liquid and entrained air into separation chamber. Air is separated and expelled through pump discharge while liquid recirculates into lower volute. Once air is completely removed from suction and liquid fills impeller eye, pump is fully primed, and functions as a conventional centrifugal pump with both volutes performing as discharges. The casing is designed so that an adequate volume of liquid for repriming is always retained in pump even if liquid is allowed to drain back to source of supply from discharge to suction.

MODEL DESIGNATION
DSPA 1.5 x 1.5
- M/Seal Size : 1.375" (Ø34.925)
- BRG : 6307 x 1, 5307 x 1
- M/Seal Size : 1.875" (Ø47.625)
- BRG : 6310 x 1, 5310 x 1
- M/Seal Size : 2.625" (Ø66.675)
- BRG : 6314 x 1, 5314 x 1
Performance range shown on these charts are preliminary selection only.
## OUTLINE DIMENSION DRAWING

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<th>PUMP &amp; MOTOR</th>
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### TECHNICAL DATA

- Installations as near the sources as possible
- Suction pipe size should equal with the suction flange of pumps
- Check the minimum submergence (GRAPH A)

#### SELF PRIMMING TIME

**DSPA 1.5 x 1.5-8**

**DSPA 2 x 2-10**

**DSPA 3 x 2-10**

**DSPA 3 x 2-13**

**DSPA 4 x 3-10**

**DSPA 4 x 3-13**

**DSPA 6 x 5-13**

**DSPA 8 x 6-13**
자흡식펌프 설치유의사항 (SELF-PRIMING PUMP INSTALLATION)

Pump의 유량, 양정 및 흐름속도에 의해서 PUMP가 선정되면, 자흡시간을 예상할 수 있으며, 펌프성능이 RPM과 압력별 직경에 따라서 달라지는 것처럼 자흡시간이 달라집니다. 자흡수직거리와 수평거리, 비중 또는 흡입배관 사이즈 등에 의하여 자흡시간이 결정됩니다.

According to the selected pump, we can expect it’s self-priming time.
The priming time is decided by a vertical distance, a horizontal distance, a specific gravity, and a pipe’s size.

![Graph showing priming time vs. length](image)

**비중 (SPECIFIC GRAVITY)**
비중이 커질수록 자흡시간이 길어집니다.
PUMP가 물(비중1.0)을 3m 끌어올리는 대신에 비중에 1.3인 액체를 PUMP를 이동할 경우에는 LIFT가 1.3배가 되어 3.9m이며 따라서 자흡시간은 약20초가 소요됩니다. (비중이 1.0보다 작을 경우에는 1.0으로 간주)

SELF-PRIMING PUMP는 가능한 자흡 수직길이가 6m정도가 한계이므로 비중이 1.0보다 큰 경우의 실제 LIFT의 한계는 6m를 상세로 나누는데 됩니다.
예) 6m ÷ 1.3 = 4.6m가 한계입니다.

**설치상의 주의사항 (INSTALLATION CAUTION)**
- **PUMP를 흡입 SOURCE에 최대한 가까이 설치할것**
- **흡입배관의 길이를 7.5m이내로 할것**
- **흡입배관의 사이즈는 PUMP의 흡입 플랜지와 같은 사이즈로 할것**
- **흡입배관상에 FOOT 밸브를 설치하지 말것**
- **원활하게 흡입을 위해 배관 끝은 비특으로 부터 1.5D(전 흡입배관길이) 이상 유지할것**
- **공기가 토출배관을 통해서 자유롭게 VENT 될수 없을 경우에는 토출배관에서 PUMP로 떨어지는 작은 사이즈의 공기 배출판을 설치할것**

The self-priming time becomes longer as the specific gravity increases.
The lift of pumping A(Sp.Gr.: 1.3) is 1.3 times longer than that of pumping water(Sp.Gr.: 1)
It takes about 15 seconds to prime water(Sp.Gr.: 1) up to 3m
It takes about 20 seconds to prime liquid(Sp.Gr.:1.3) up to 3m
The max. suction lift of self-priming pump is to about 6m.
In case the specific gravity of liquid is bigger than 1, you can calculate the limit of lift by the example(Sp.Gr. 1.3)
ex) 6m ÷ 1.3 = 4.6m

DUKJI INDUSTRIAL CO., LTD.
MODEL DSW NON-CLOG SCREW CENTRIFUGAL PUMP

APPLICATION
Sewage disposal plant and wastewater treatment plant, transportation of fish and shellfish, pulp hides transportation, coal powered, coal transportation, and high-density slurry transportation for various industries

FEATURES
Screw impeller structure can transfer every solid without blocking
In case of repair maintenance, it is possible to confirm inside of casing through inspection hole on the casing
Easy assembly with BACK PULL-OUT structure

MATERIAL
- Cast Iron
- Stainless Steel (304, 316, 316L)
- High chrome castiron (Hi-Cr)
- Special alloy (ALLOY-20, HASTELLOY)

STANDARD SPECIFICATION
- Capacity : ~ 2000 m³/hr
- Head : ~ 40 m
- Bore : φ50 – φ450
- Impeller type : Non-Clog Screw
- Rotation : C.C.W (Viewed from drive end.)
- Driving by change of number of rotations (V-Belt Standard)
- Shaft sealing : Mechanical seal & Gland packing
- Lubrication : Oil Bath Type

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### OUTLINE DIMENSION DRAWING

#### STANDARD

![Diagram of Standard Pump and Base Dimensions](image_url)

#### SPECIAL

![Diagram of Special Pump and Base Dimensions](image_url)

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## SECTION DRAWING

### PACKING TYPE

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MODEL DWM NON-CLOG ABRASIVE SLURRY PUMP

APPLICATION
- Power Plant, Chemical Process, Heavy Minerals
- Paper and pulp, Mill Discharge, Bottom Boiler Fly Ash Cyclone Feed, Slag Granulation, Suction Hopper Dredging, Barge Loading, Mill Discharge, Sand Reclamation

STANDARD SPECIFICATION
- Capacity: ~ 7200 m³/hr
- Head: ~ 85 m
- Bore: 25 ~ 800 mm
- Impeller type: Non-clog (Open & Close)
- Rotation: C.W (Viewed from drive end.)
- Driving by change of number of rotations (V-Belt Standard)
- Shaft sealing: Mechanical seal & Gland packing

FEATURES
- DUKJI heavy duty pumps display total interchangeability between hard metal and elastomer lined pumps. Designed for a wide range of slurry and process Applications.

MATERIAL
- High Chrome Alloy, Natural Rubber

SELECTION CHART

MODEL DESIGNATION
- DWM
- 80
- 50
- SM
  - SM: METAL LINER
  - SMR: RUBBER LINER
What is a Slurry Pump??
There are a number of different pump types used in the pumping of slurries. Positive displacement and special effect types such as venturi eductors are used but by far the most common type of slurry pump is the centrifugal pump. The centrifugal slurry pump utilizes the centrifugal force generated by a rotating impeller to impart kinetic energy to the slurry in the same manner as clear liquid type centrifugal pumps. However, this is where the similarities end. The selection process for centrifugal slurry pumps needs to include consideration for impeller size and design for solids passage, appropriate shaft seal possibilities and optimum, long life material selections. These basics need to be considered by the application engineer who will select the liquid end parts to withstand wear caused by the abrasive, erosive and/or corrosive attack on the wetted materials. To achieve lower operating speeds, slurry pumps are also generally larger in size than comparable clear liquid pumps in order to reduce velocity thereby minimizing the rate of wear. Bearings and shafts also need to be much more rugged and rigid.

Dukji - Slurry Pump design features

- **Bearing assembly** - A large diameter shaft with short overhang minimizes deflection and contributes to long bearing life. Only four through bolts are required to hold the cartridge type housing in the frame.

- **Throatbush** - Wear is reduced and maintenance simplified by the use of tapered mating faces to allow positive accurate alignment during assembly and simple removal.

- **Liners** - Easily replaceable liners are bolted, not glued, to the casing for positive attachment and ease of maintenance. Hard metal liners are completely interchangeable with pressure molded elastomers. Elastomer seal rings back all liner joints.

- **Impeller** - Front and rear shrouds have pump out vanes that reduce recirculation and seal contamination. Hard metal and molded elastomer impellers are completely interchangeable. Cast in impeller threads require no inserts or nuts. High efficiency and high head designs are also available.
FULLY INTERCHANGEABLE PUMP

OUTLINE DIMENSION DRAWING

- HORIZONTAL V-BELT DRIVE (HR)
- HORIZONTAL V-BELT DRIVE (HL)
- DIRECT COUPLED MOTOR DRIVE (DC)
- OVERHEAD MOUNTED MOTOR V-BELT DRIVE (TO)
- REVERSE OVERHEAD MOUNTED MOTOR V-BELT DRIVE (TR)
MODEL DVS-SM/SMR SLURRY SUMP PUMP

- **APPLICATION**
  - Sump drainage / washdown
  - Floor drainage
  - Mill sumps
  - Carbon transfer

- **FEATURES**
  - The DVS-SM and SMR designs, manufactured in popular metric sizes, provide a simple, yet rugged sump pumps specially developed for: Large particle size, High slurry densities

- **MATERIAL**
  - High Chrome Alloy, Natural Rubber
  - Mild Steel, Rubber Liner Steel

- **STANDARD SPECIFICATION**
  - Capacity: ~ 500 m³/hr
  - Head: ~ 50 m
  - Bore: ø40 ~ ø200

**SELECTIONAL ATTANGEMENT**
(Options-Rubber or Metal)

**SELECTION CHART**

**MODEL DESIGNATION**

- **DVS**
  - PUMP MODEL
- **65**
  - DISCHARGE SIZE (mm)
- **SM/SMR**
  - SM: METAL LINER
  - SMR: RUBER LINER
MODEL MSHF HI-DUPOLITE(FRP) CENTRIFUGAL PUMP

APPLICATION
Transportation of various chemicals (Hydrochloric acid, sulphuric acid, ferric Chloride, chromate, Hydrofluoric acid and alkaline solutions, etc), petrochemical industry, pharmaceutical industry and dyeing, food industry, wastewater treatment, other industry, etc.

FEATURES
- Hi-Dupolite material makes high corrosion resistance and heat-resisting property
- Complete standardization with precise forming of all parts
- Easy assembly and maintenance with BACK PULL-OUT structure

MATERIAL
Hi-Dupolite material with high corrosion resistance and heat-resisting property (FRP, CFRP)

STANDARD SPECIFICATION
- Capacity : ~ 600 m³/hr
- Head : ~ 60 m
- Bore : Ø25 ~ Ø250
- Impeller type : Open or Close
- Rotation : C.W (Viewed from drive end.)
- Shaft sealing system : Mechanical Seal
- Lubrication : Oil Bath Type

APPLICATION
Transportation of various chemicals (Hydrochloric acid, sulphuric acid, ferric Chloride, chromate, Hydrofluoric acid and alkaline solutions, etc), petrochemical industry, pharmaceutical industry and dyeing, food industry, wastewater treatment, other industry, etc.

FEATURES
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APPLICATION
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APPLICATION
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- Easy assembly and maintenance with BACK PULL-OUT structure

MATERIAL
Hi-Dupolite material with high corrosion resistance and heat-resisting property (FRP, CFRP)
## SECTION DRAWING

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INSTALLATION PICTURES
MODEL MSHS HI-DUPOLITE(FRP) SELF-PRIMING PUMP

APPLICATION
Chemicals industry, transportation for PIT solution of general industry, wastewater treatment, other industry, etc.

FEATURES
- Self-priming pump driving automatically
- Hi-Dupolite material makes high corrosion resistance and heat-resisting property
- Complete standardization with precise forming of all parts
- Easy assembly and maintenance with BACK PULL-OUT structure

MATERIAL
Hi-Dupolite material with high corrosion resistance and heat-resisting property (FRP, CFRP)

STANDARD SPECIFICATION
- Capacity: ~ 500 m³/hr
- Head: ~ 50 m
- Bore: φ25 ~ φ250
- Impeller type: Open
- Rotation: C.W (Viewed from drive end.)
- Shaft sealing system: Mechanical Seal
- Lubrication: Oil Bath Type

MODEL DESIGNATION

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MODEL DVS/NPVL  VERTICAL SUMP PIT PROCESS PUMP

APPLICATION
- Chemical industry, general industry, water treatment and other industry, etc
- Transportation of acidic, alkaline solutions, circulation pump for scrubber, spray pump for etching

FEATURES
- Simple design and easy handling by casing of vertical type and impeller is installed on lower part
- Structure connected with motor of upper part through the column pipe
- Hi-Dupolite material makes high corrosion resistance and heat-resisting property
- Complete standardization with precise forming of all parts
- Easy maintenance of pump with Non-Seal, No-Packing structure

STANDARD SPECIFICATION
- Capacity: ~ 600 m³/hr
- Head: ~ 80 m
- Bore: Φ25 ~ Φ250
- Impeller type: Open
- Rotation: C.W (Viewed from drive end.)
- Shaft sealing: Non-Seal, No-Packing type

MATERIAL
- DVS
  - Cast Iron
  - Stainless Steel (304, 316, 316L)
  - Special alloy (ALLOY-20, HASTELLOY)
- NPVL
  - Hi-Dupolite material with high corrosion resistance and heat-resisting property (FRP, CFRP)

SELECTION CHART

MODEL DESIGNATION

DVS  ×  2  —  1  —  10  —  NPVL  40  25
PUMP MODEL  DISCHARGE SIZE (inch)  IMPELLER DIA. (inch)  PUMP MODEL  DISCHARGE SIZE (mm)  IMPELLER DIA. (mm)
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![Installation Picture 1](image1)

![Installation Picture 2](image2)

![Installation Picture 3](image3)

![Installation Picture 4](image4)
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MODEL DMN(A)P SEALESS MAGNETIC-DRIVE PUMP

■ APPLICATION
Precision chemical industry, petrochemical industry, semi-conductor industry, etc

■ FEATURES
- No leakage: Perfect sealing by strong magnet coupling
- Saving cost for maintenance: Because there is no shaft sealing system the cost can be saved regarding sealing delivery and change
- Easier maintenance: Back Pull-Out structure
- Easier exchange of parts: It is easy to be delivered by localization and standardization of all parts

■ STANDARD SPECIFICATION
- Capacity: ~ 150 m³/hr
- Head: ~ 50 m
- Bore: ø25 ~ ø100
- Impeller type: Close
- Rotation: C.W (Viewed from drive end.)

■ SELECTION CHART

* Performance range shown on these chart are preliminary selection only

■ MODEL DESIGNATION

DMNP DMAP
PUMP MODEL SUCTION SIZE DISCHARGE SIZE IMPELLER DIA. MOTOR POLE
15 1 6 2
inch inch inch

DMNP: Non-metal PUMP
DMAP: Metal PUMP
## OUTLINE DIMENSION DRAWING

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MODEL NPVO HI-DUPOLITE(FRP) VERTICAL NON-SEAL PUMP

APPLICATION
Transportation of various chemicals (Hydrochloric acid, sulphuric acid, ferric Chloride, chromate, Hydrofluoric acid and alkaline solutions, etc), dust collector, circulation · filtration · etching for plating solution, acid washing and hides dye house

FEATURES
- Hi-Dupolite material makes high corrosion resistance and heat-resisting property
- Complete standardization with precise forming of all parts
- Easy maintenance of pump with Non-Seal, No-Packing structure

MATERIAL
Hi-Dupolite material with high corrosion resistance and heat-resisting property (FRP, CFRP)

STANDARD SPECIFICATION
- Capacity : ~ 450 m³/hr
- Head : ~ 50 m
- Bore : ø25 ~ ø250
- Impeller type : Open
- Rotation : C.W (Viewed from drive end.)

MODEL DESIGNATION

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</table>
MODEL NPVP PERMANENT PECULIAR SEAL PUMP

APPLICATION
Transportation of various chemicals (Hydrochloric acid, sulphuric acid, ferric Chloride, chromate, Hydrofluoric acid and alkaline solutions, etc), wastewater treatment facilities, dust collector, circulation filtration etching for plating solution, acid washing and hides dye house

FEATURES
- Solving the installation problem by using special seal
- Saving cost for maintenance due to permanent use of the mechanical seal
- Special parts make no leakage during driving structure

MATERIAL
- Hi-Dupolite material with high corrosion resistance and high heat-resisting property (FRP, CFRP)
- Stainless Steel (304, 316, 316L)

STANDARD SPECIFICATION
- Capacity : ~ 300 m³/hr
- Head : ~ 50 m
- Bore : ø25 ~ ø150
- Impeller type : Open
- Rotation : C.W (Viewed from drive end.)
- Expeller & Peculiar Seal : Patent of invention

MODEL DESIGNATION

<table>
<thead>
<tr>
<th>NPVP</th>
<th>5</th>
<th>4</th>
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<td>PUMP MODEL</td>
<td>SUCTION SIZE</td>
<td>DISCHARGE SIZE</td>
<td>IMPELLER DIA.</td>
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</table>
HEAD QUARTER-#1 FACTORY [Zip code] 425-833
#602-10 Seonggok-dong, Danwon-gu, Ansan-si, Gyeonggi, Korea (Banwol Industrial Complex B20-24)
TEL. +82-31-492-3701   FAX. +82-31-492-3704   e-Mail : dukji@dukji.co.kr   http : //www.dukji.co.kr

GWANGYANG OFFICE [Zip code] 545-880
#1358-1/2nd FLJ Joong-dong, Gwangyang-si, Jeollanam-do, Korea
TEL. +82-61-792-5366   FAX. +82-61-792-5367   e-Mail. djky@dukji.co.kr

POHANG OFFICE [Zip code] 790-862
#82-14 Haedo-dong, Nam-gu, Pohang-si, Gyeongsangbuk-do, Korea
TEL. +82-54-277-0498   FAX. +82-54-278-0498

GIHEUNG OFFICE [Zip code] 449-901
#San 24 Nongseo-dong, Giheung-gu, Yongin-si, Gyeonggi, Korea (in Samsung Electronics complex)
TEL. +82-31-209-8197   FAX. +82-31-209-4495   e-Mail. djgh@dukji.co.kr

CHEONAN OFFICE [Zip code] 336-386
#501 Boheumbuilding , #445-1 Sandong-ri, Eumbong-myeon, Asan-si, Chungcheongnam-do, Korea
TEL. +82-41-534-3701   FAX. +82-41-534-3736

CHINA OFFICE [Zip code] 110021
沈瑞市 鍾南區 南六中路 117-2 6.3 [No.117-2 6.3 South Liuzhong Road Shenyang China]
TEL. +86-24-25658670   FAX.+86-24-25851592

ISO 9001/14001 Certified