

PUMPS

SUBMERSIBLE PUMP

[Explosion proof – ATEX, Exd IIC T4]

KEUMDUK



PRODUCT & SERVICE GUIDE



KEUMDUK

PUMP INDUSTRIAL

COMPANY HISTORY

1998

- 08 • Founded (Banghwadong, Gangseo-gu, Seoul)
- 09 • Registered Hyundai Mobis Co., Ltd.
Hynix Semiconductor / Daewoo E&C

2000

- 01 • Incorporated Keumduk Pump Industrial co.,Ltd
- 05 • Registered Hyundai Heavy Industries

2002

- 01 • Commendation of excellent agency from
Keum-Jung Industry Co., Ltd.
- 10 • Expansion and transfer of office building to
Banghwa 3-dong, Gangseo-gu

2007

- 01 • Remove to Bucheon Si Wonmi-gu, Gyeonggi-Do
- 06 • Took over of Keum-Jung Industry A/S Distributor
- 07 • Registered Hyundai Engineering Co., Ltd. /
Hyundai Engineering & Construction Co., Ltd. /
Hanwha Construction Co., Ltd.

2008

- 03 • Registered SK E&C / GS E&C
• Registered SK Energy Co., Ltd.

2009

- 01 • Commendation of excellent agency from
Keum-Jung Industry Co., Ltd.

2010

- 05 • Grundfos Korea agent registration

2011

- 05 • Completion GIMPO Factory,
Land centrifugal pump planning and production
- 10 • Acquired R & D Department Certificate
• Acquired ISO9001 Quality System Certificate
- 11 • Moved headquarters
(Tongjin-eup, Gimpo-si, Gyeonggi-do)



2012

- 11 • Registered SK Innovation Co., Ltd.
- 12 • The Korea Chamber of Commerce & Industry award

2013

- 01 • Registered KOREA SOUTH-EAST POWER CO.
 - Acquired GL Certificate (Germanischer Lloyd) (High-Ballast Pump)
- 04 • Registered KOREA SOUTHERN POWER CO.
 - Registered KOREA WESTERN POWER CO.
- 05 • Acquired CE Certificate (Communaute Europeenne)[KDW, KVS]

2014

- 07 • Acquired CE Certificate (Communaute Europeenne)[KAP8x6-13]
- 10 • Expanded Factory
 - Expanded Test Site and Set up Painting Booth
 - Started Construction of new Dormitory

2015

- 04 • Completed construction of Gimpo factory
- 09 • Received Korea Management Innovation Grand Prize 2015
 - Acquired a risk assessment certificate
 - Received Citation by the member of the National Assembly
- 12 • Export tower of 5 million dollars Award
 - Received Prize by Minister of Industry & Commerce
 - Received Prize by President of Korea International Trade Association
 - Gyeonggi Small and Medium Business Administration Award
 - Received Grand Prize of Gimpo Small & Medium Business
 - Acquired OHSAS18001 Certificate, ISO14001 Certificate

2016

- 01 • Acquired CE Certificate (6 Pump, 5 LCP)
- 02 • Acquired Manufacturing certificate
 - Acquired PPS Participation Certificate
 - Registered as a member of KITA
 - Joined Korea Pump Industry Cooperative
- 06 • Selected as an Excellent Job Creation Company in Gyeonggi-do
- 07 • Acquired CE Certificate(4type of LCP)
- 10 • Selected as an Promising Small and Medium Enterprise in Gyeonggi-do

SUBMERSIBLE PUMP CONTENTS

PUMP TYPE

MODEL

APPLICATIONS

RATING

PAGE



KDO KDBO

DRAIN PUMP FOR CIVIL ENGINEERING SITE

- Construction site drainage / portable drainage
- Emergency drainage / raw water intake

Capacity : ~ 8 m³/min
Head : ~ 30m

12p



KDE KDH

HIGH HEAD PUMP FOR CIVIL ENGINEERING SITE

- Construction site drainage / portable drainage
- Emergency drainage / raw water intake

Capacity : ~ 3 m³/min
Head : ~ 110m

13p



KDW KDW-S KDW-EX

WASTE WATER & EFFLUENT PUMP

- Residential, commercial and industrial
- Wastewater and sight drainage
- S : sand delivery pump
- EX : Explosion-proof (ATEX, Exd IIC T4)

Capacity : ~ 3 m³/min
Head : ~ 50m"

14p

PUMP TYPE	MODEL	APPLICATIONS	RATING	PAGE
	KDV KDSV KDV-EX KDSV-EX	SEWAGE AND WASTE WATER VORTEX PUMP <ul style="list-style-type: none"> • Transfer sludge at piggery farm • Transfer waste water from septic tank • EX : Explosion-proof (ATEX, Exd IIC T4) 	Capacity : ~ 4 m ³ /min Head : ~ 30m	14p - 15p
	KDAO	SAND AND GRAVEL PUMP <ul style="list-style-type: none"> • Sand delivery / Gravel and Sand • Transfer waste water from septic tank 	Capacity : ~ 8 m ³ /min Head : ~ 35m	15p
	KDS KDS-EX	LARGE CAPACITY PUMP <ul style="list-style-type: none"> • Supply factory with industrial water • Fountain, decorative waterfall • EX : Explosion-proof (ATEX, Exd IIC T4) 	Capacity : ~ 30 m ³ /min Head : ~ 50m	16p
	KDG KDG-EX	GRINDER PUMP <ul style="list-style-type: none"> • Grinder type • Draining waste and waste water of a cattle shed and kitchen • Moving wastes and excretion • EX : Explosion-proof (ATEX, Exd IIC T4) 	Capacity : ~ 1.2 m ³ /min Head : ~ 30m	16p

**KDM
KDM-EX****MIXER**

- Sewage, waste-water or drainage disposal plant : Sewage sediment and various liquid of piled object
- EX : Explosion-proof (IECEX Exd IIC T4)

Max.tank vol(m³) : 800
Max.Mixing Range(m) : 70

17p

**KDPL****PROPELLER PUMP**

- Protection from flood, heavy rain
- Drain large quantity for irrigation

Capacity : ~ 600 m³/min
Head : ~ 10m

17p

**KDWM****MIXED FLOW PUMP**

- Middle head, large water supply
- Flood control measure
- Industrial water for large capacity

Capacity : ~ 600 m³/min
Head : ~ 25m

18p

**KDSA****AQUARATOR**

- Air supply to the sewage & waste water treatment plant
- Sludge holding and maintenance

Max.200kg02Hr
Head : 35 m³/Hr-min

19p

PUMP TYPE**MODEL****APPLICATIONS****RATING****KAP****ANSI B 73.1M
STANDARD PROCESS PUMP**

- Industrial Process
- Chemical Process
- Petrochemical Industry
- Petroleum refineries

Capacity : Max.1000 m3/hr
Total Head : Max.230mH

**KIP****ISO5199/2858
STANDARD PROCESS PUMP**

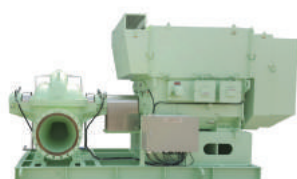
- Industrial Process
- Chemical Process
- Water treatment & Drainage

Capacity : ~1200 m3/hr
Total Head : ~150mH

**KAPI****API610
STANDARD PROCESS PUMP**

- Petroleum Refinery
- Petrochemical Industry
- Other Chemical
- High temperature and high pressure Service

Capacity : ~ 1500m3/hr
Total Head : ~200m H

**KDR****DOUBLE SUCTION
CENTRIFUGAL PUMP**

- Industrial Process
- Water delivery and irrigation
- Cooling water supply
- Circulation water

Capacity : ~10000 m3/hr
Total Head : ~200mH

PUMP TYPE**MODEL****APPLICATIONS****RATING****KDRV****VERTICAL DOUBLE SUCTION PUMP**

- General Industrial Application
- Cooling Water Supply
- Circulating Water
- Irrigation
- Water Supply and Industrial Application

Capacity : 350~3,200 m3/hr
Total Head : 15~90mH

**KMS****MULTI-STAGE PUMP**

- Boiler feed water
- High Pressure Services
- Hydraulic Press Operation

Capacity : 3~500 m3/hr
Total Head : 32~150mH

**KMT****HIGH PRESSURE PUMP
MULTI-STAGE TURBINE PUMP**

- Water Supply
- Industrial Water Supply
- Water Supply for Boiler
- Pressurization
- City Water Supply
- Firefighting

Capacity : 3~500 m3/hr
Total Head : 32~1000mH

**KVP**
(Metal)**VERTICAL SUMP
PROCESS PUMP**

- Industrial Process
- Chemical Process
- Water treatment and other industry
- Circulation pump for scrubber

Capacity : Max.600 m3/hr
Total Head : Max.80 mH

PUMP TYPE**MODEL****APPLICATIONS****RATING****KVMT****VERTICAL MULTI-STAGE PUMP**

- Pipeline Boosting
- Refinery Blending
- Chemical Transfer
- Condensate

Capacity : 7.2~200m³/hr
Total Head : 11.5~250 mH

**KVMF****VERTICAL MIXED-FLOW PUMP**

- General Industrial
- Factory drainage
- Rainwater drainage
- Agriculture

Capacity : 90~10,000m³/hr
Total Head : 3~130 mH

**KVMC****VERTICAL CANNED PUMP**

- Pipeline Boosting (Low NPSH)
- Refinery Blending
- Chemical Transfer
- Condensate

Capacity : 7.2~200m³/hr
Total Head : 11.5~250 mH

**KSP**

(Metal)

KSF

(FRP)

**SELF-PRIMING
PROCESS PUMP**

- Industrial Process
- Chemical Process
- Drainage and other various industries, etc

Capacity : Max.800 m³/hr
Total Head : Max.100 mH

PUMP TYPE**MODEL****APPLICATIONS****RATING****KIL****IN-LINE PUMP**

- Water Supply
- Heating, Cooling
- Industrial Processes

Capacity : 5~900m³/hr
Total Head : 5~90 mH

**KSW****NON-CLOG SCREW
CENTRIFUGAL PUMP**

- Sewage, wastewater treatment plant
- Pulp & Paper transportation
- High-density slurry transportation for various industries

Capacity : ~2000 m³/hr
Total Head : ~40mH

**KWM
KMR
KWV
KWVR****NON-CLOG ABRASIVE
SLURRY PUMP**

- Thermoelectric Power Plant
- Picking up & sand & gravel
- Bottom Boiler Fly Ash
- Paper and Pulp

Capacity : Max. 600 m³/hr
Total Head : ~80mH

**KFP****FRP
(Fiberglass Reinforced Plastics)
PROCESS PUMP**

- Industrial & Chemical Process
- Petrochemical Industry
- Transportation of various chemicals (HCl, NaOCl, HF, Seawater etc.)

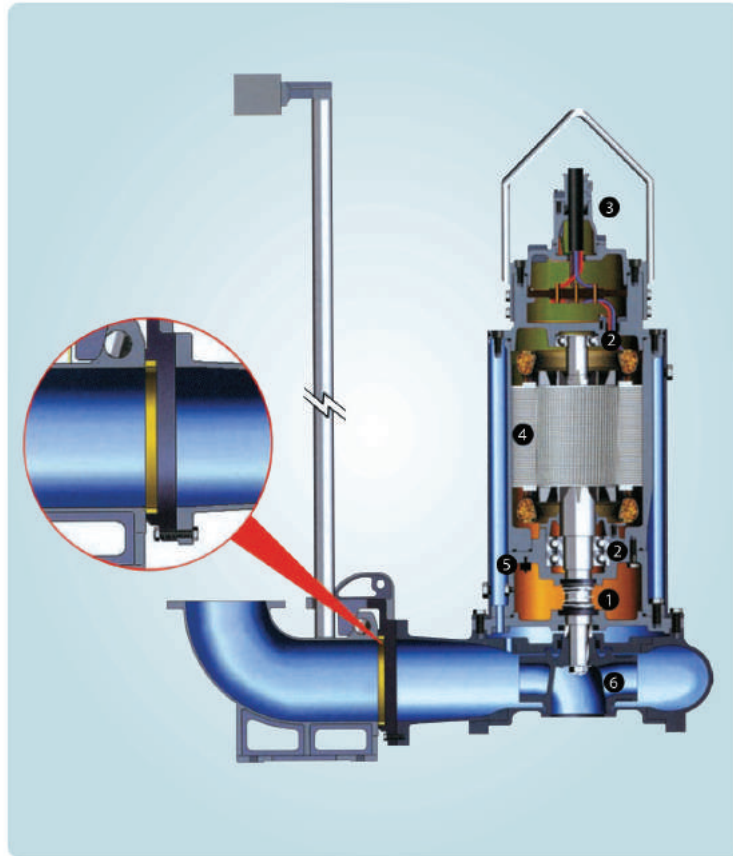
Capacity : Max.600 m³/hr
Total Head : Max.60 mH

**KVF
(FRP)****VERTICAL FRP SUMP
PROCESS PUMP**

- Industrial Process
- Chemical Process
- Water treatment and other industry
- Circulation pump for scrubber

Capacity : Max.600 m³/hr
Total Head : Max.80 mH

FEATURES OF SUBMERSIBLE PUMPS



1. SPECIAL MECHANICAL SEAL

Double mechanical seal with Sic / Sic is used to ensure perfect sealing performance and long life.

2. HIGH STRENGTH BEARINGS

Self-aligning, permanently lubricated ball bearings ensure long life and stable operation.

3. DOUBLE WATER PROOF STRUCTURE

Dual inlet waterproofing for cable entry minimizes motor burnout due to cable coating damage.

4. HIGH PERFORMANCE MOTOR

Built-in temperature control and current-controlled motor protection device prevents burnout of the motor and reduces operating cost with high efficiency design.

5. LEAK DETECTION DEVICE

The detection device senses the incoming water in the seal chambers and protects the motor from burnout, thus extending the service life.

6. SPECIALLY DESIGNED IMPELLER

We KEUMDUK PUMP INDUSTRIAL can satisfy any condition for impeller such as Open type, Enclosed type, Non-Clog type, Torque Flow type, Vortex & Propeller type. Especially, our pumps have excellent solid handling ability.

7. AUTOMATIC DISCHARGE CONNECTOR(ADC)

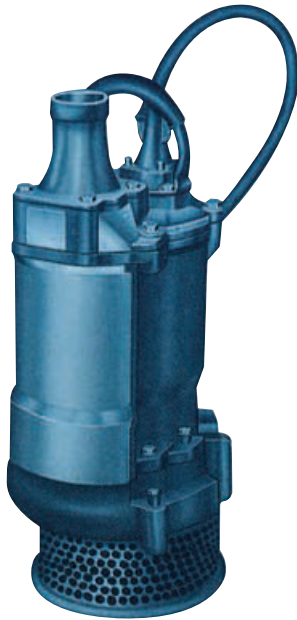
The ADC with two-rail design system makes it easy to lift and install the pump.

8. CONVENIENT MAINTENANCE

The impeller and casing cover are easily replaceable, making maintenance easy.

APPLICATIONS

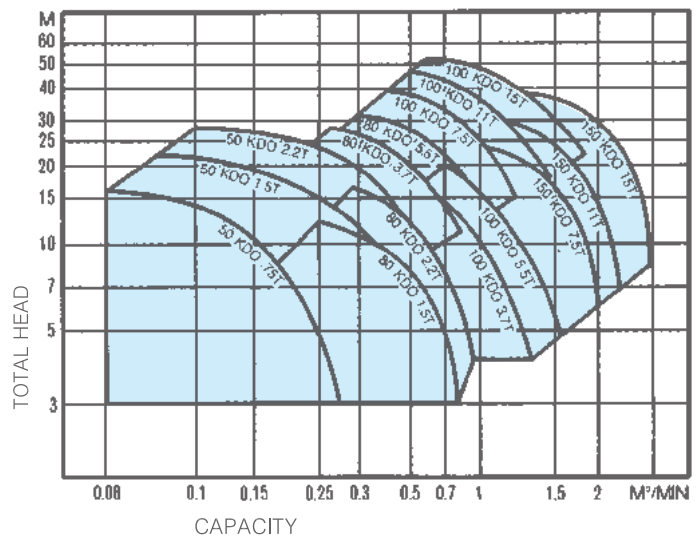
- Dewatering/drainage at engineering, construction site
- Dewatering/drainage at waterworks/sewage construction site



FEATURES

- Portable due to light weight, compact structure/Applicable to high or low head according to its purpose by means of changing impeller
- Semi-open impeller type

SELECTION CHART



APPLICATIONS

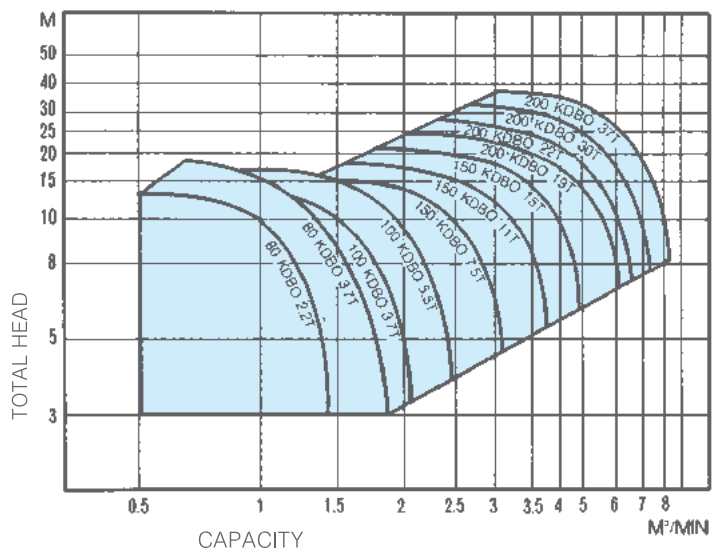
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FEATURES

- Portable due to light weight, compact structure/Applicable to high or low head according to its purpose by means of changing impeller
- 4 pole for durability

SELECTION CHART



APPLICATIONS

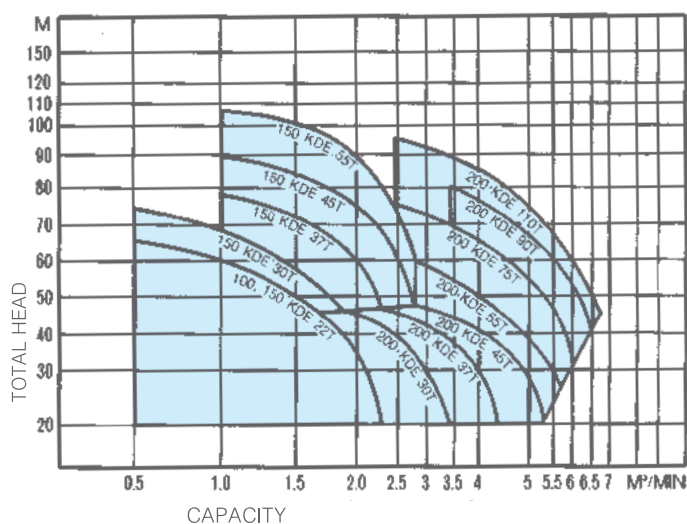
- Dewatering/drainage at road, harbor, dam construction site Drainage at mine

FEATURES

- Applicable to higher than other dewatering pumps Maximize cooling effect of motor with water jacket around motor



SELECTION CHART



APPLICATIONS

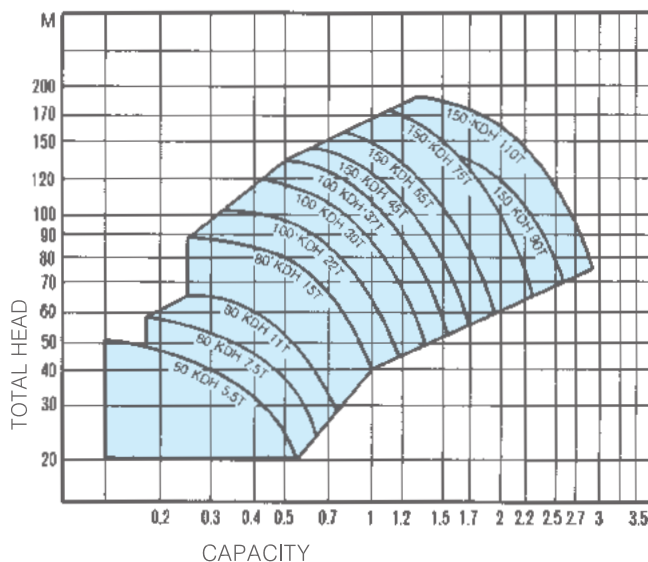
- Dewatering/drainage at road, harbor, dam construction site Drainage at mine

FEATURES

- Applicable to higher than other dewatering pumps Maximize cooling effect of motor with water jacket around motor
- Closed impeller type
- 2 stage, 2pole for high pressure



SELECTION CHART



APPLICATIONS

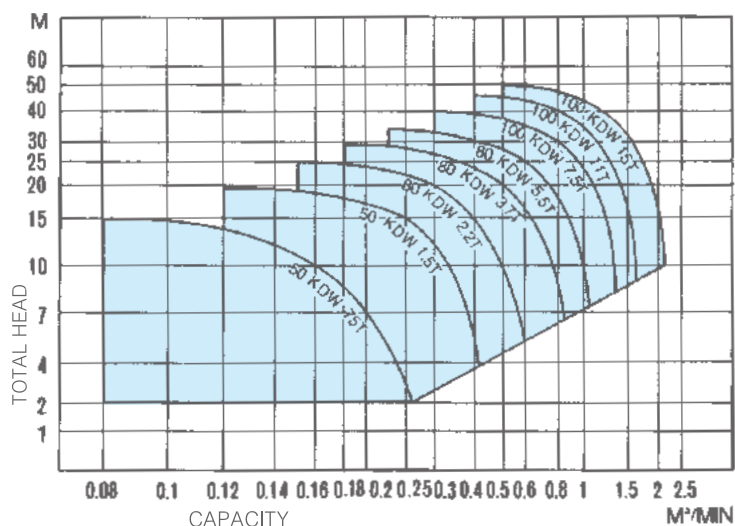
- Effluent transfer from waste & sewage water treatment plant
- Subway station, underground, industrial site



FEATURES

- Easy to maintain with auto discharge connector
- Equipped with semi-open impeller
- KDW-EX : Explosion-proof (ATEX, Exd IIC T4)

SELECTION CHART



APPLICATIONS

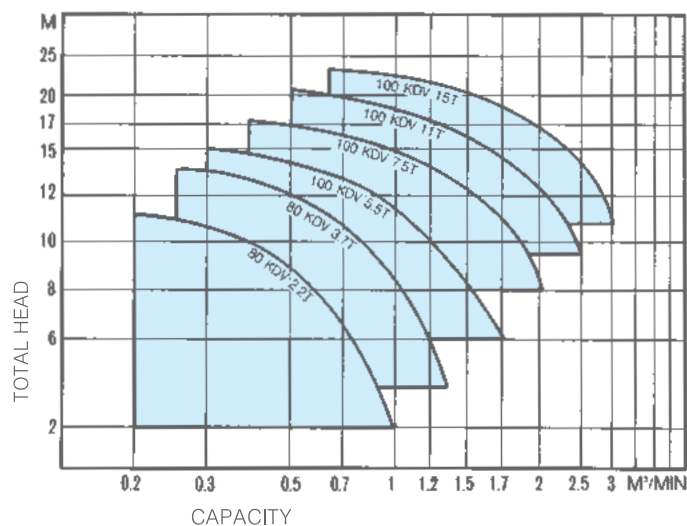
- Transfer sludge at piggery farm
- Transfer waste water from septic tank



FEATURES

- Easy to maintain with auto discharge connector
- Easy to transfer solids with vortex structure
- 4 pole for durability
- KDV-EX : Explosion-proof (ATEX, Exd IIC T4)

SELECTION CHART



APPLICATIONS

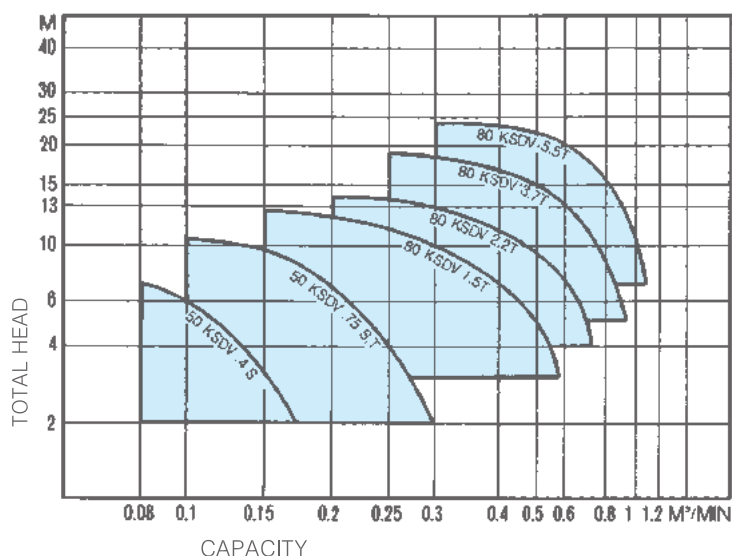
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- Transfer waste water from septic tank



FEATURES

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- Easy to transfer solids with vortex structure
- 2 pole for high pressure
- KDSV-EX : Explosion-proof (ATEX, Exd IIC T4)

SELECTION CHART



APPLICATIONS

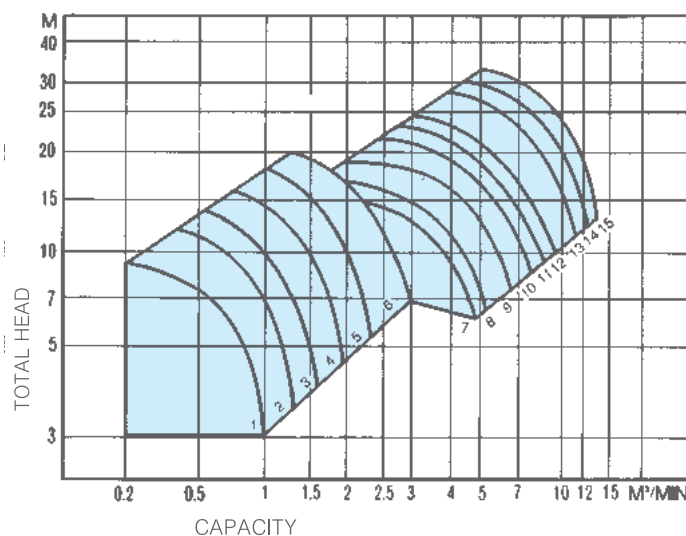
- Gravel and Sand



FEATURES

- Extracting sand of remicon plant
- Dredging operation in harbor/Moving gravel and sand

SELECTION CHART



APPLICATIONS

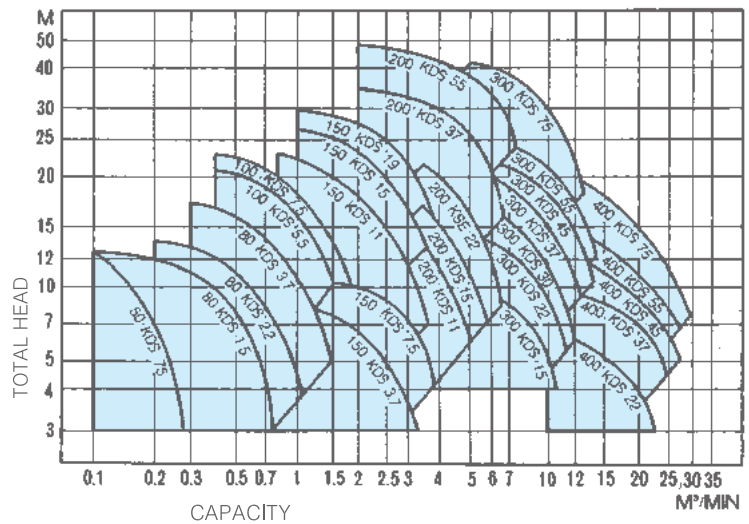
- Supply factory with industrial water
- Fountain, decorative waterfall

FEATURES

- Easy to maintain with auto discharge connector
- Minimize stopping-up of foreign materials
- KDS-EX : Explosion-proof (ATEX, Exd IIC T4)



SELECTION CHART



APPLICATIONS

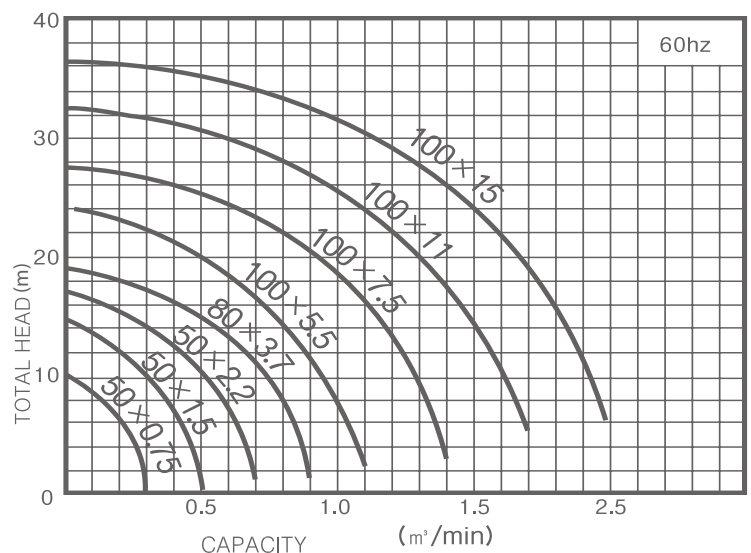
- Drainage
- Effluent
- Wastewater
- Process water
- Domestic sewage

FEATURES

- Service-friendly
- Installation of foot or auto-coupling
- Continuous operation with fully submerged pump
- Built-in motor protection
- SmartTrim
- Improved grinder system
- Totally sealed cable plug
- KDG-EX : Explosion-proof (ATEX, Exd IIC T4)

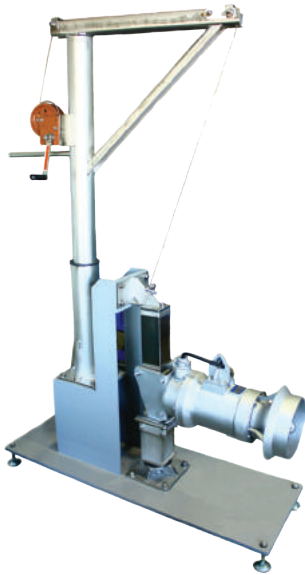


SELECTION CHART



APPLICATIONS

- A fish farm-Maintenance of best condition for breeding such as a effective oxygen support, a circulation of water, freezing prevention and a temperature control
- Sewage, waste-water or drainage disposal plant: Sewage sediment and various liquid of piled object
- Farm-Homogenizing, a fertilizer, a compost, and an excrement and anti-precipitation
- Industry plant:Anti-precipitation of small solid object such as sand and slime, and homogenizing a various liquid



FEATURES

- Simple structure
- It can be installed to upper, lower, right or left side and it is also effective of homogenizing various liquid and anti-precipitation.
- Maximizing the oxygen supply by making the aeration time longer and using Air diffuser, surface turbine, and etc.
- KDM-EX : Explosion-proof (IECEX Exd IIC T4)

SELECTION CHART

Model	RPM 60/50(Hz)	Max.Velocity (m/Sec)	Rated Power (KW)	Max.Tank Volume(m ³)	Max.Mixing Range(m)
KM 2.2	1750/1450	0.5	2.2	150	25
KM 3.7	1750/1450	0.4	3.7	200	30
KM 5.5	1750/1450	0.5	5.5	300	27
KM 7.5	1750/1450	0.5	7.5	500	50
KM 11	1165/980	0.5	11	600	60
KM 15	875/730	0.5	15	800	70

APPLICATIONS

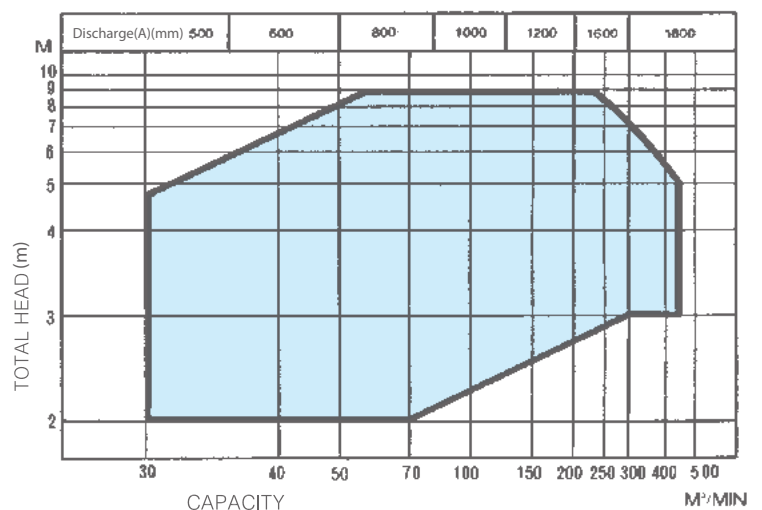
- Protection from flood, heavy rain
- Drain large quantity for irrigation, agricultural water
- Reserve water for waterworks and industrial supply
- Transfer a large quantity of sewage water
- Circulate large quantity of water at a pleasure resort of park lake



FEATURES

- Easy to handle, install with close, compact design
- Various application to low head, large quantity
- No need of special piping or housing work
- Precisely designed impeller(propeller) by means of axial flow
- Perfect watertight with double mechanical seal

SELECTION CHART



■ APPLICATIONS

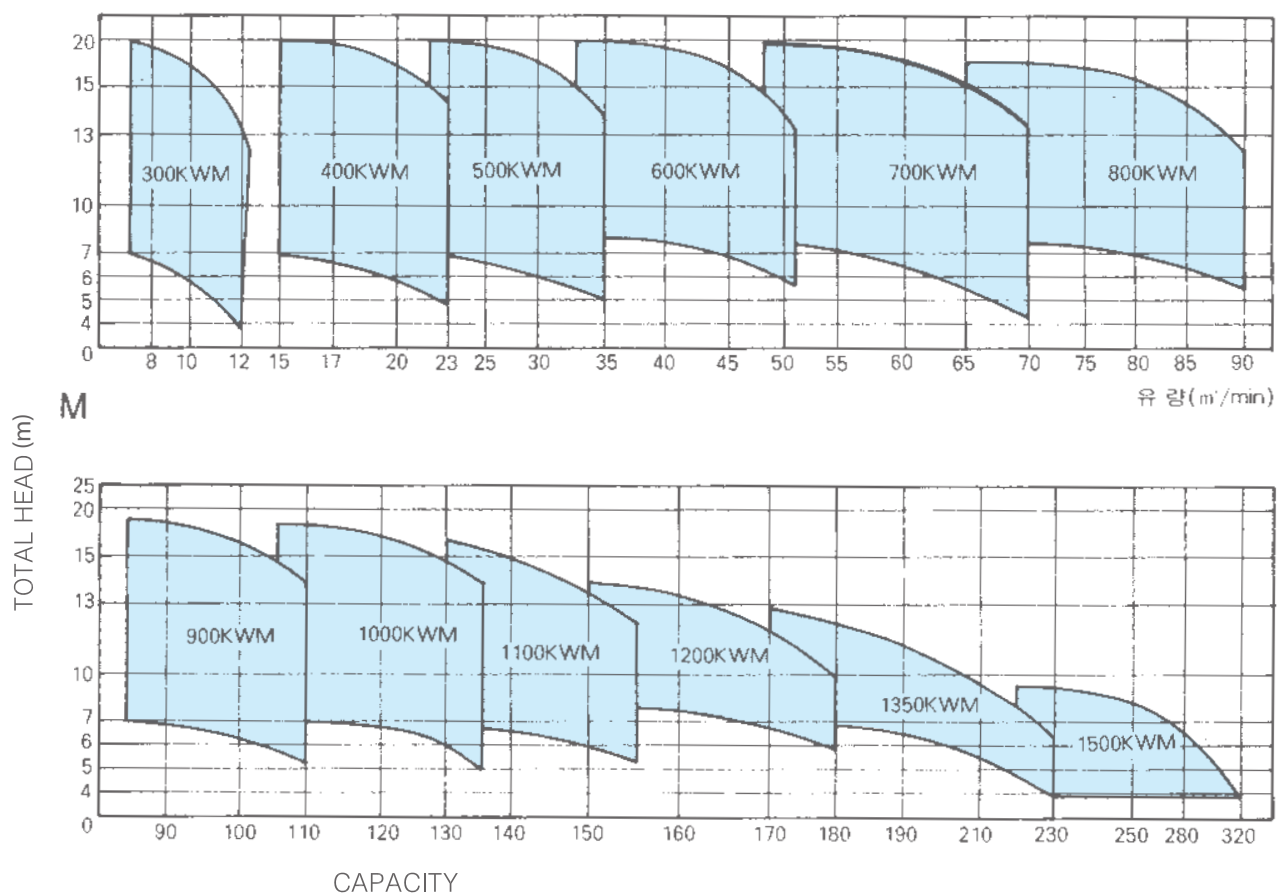
- Middle head, large water supply
- Flood control measure
- Industrial water for large capacity of waterworks and sewage management
- Any large capacity of water management

■ FEATURES

- Maximizing of the credibility of goods by an early checkup
- Easy installation and maintenance
- Small space and no accessories



■ SELECTION CHART

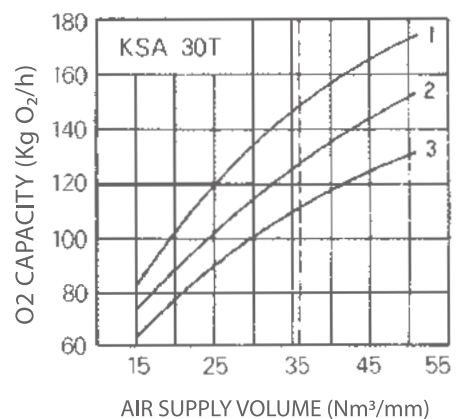
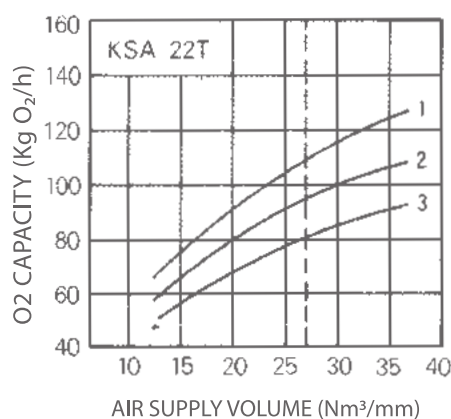
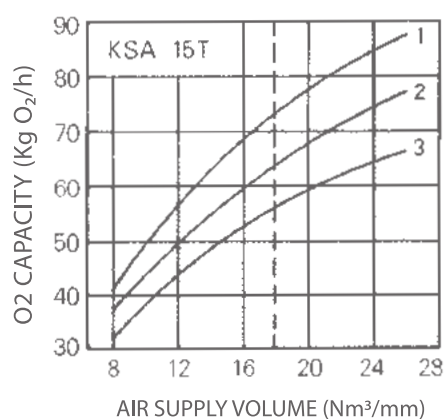
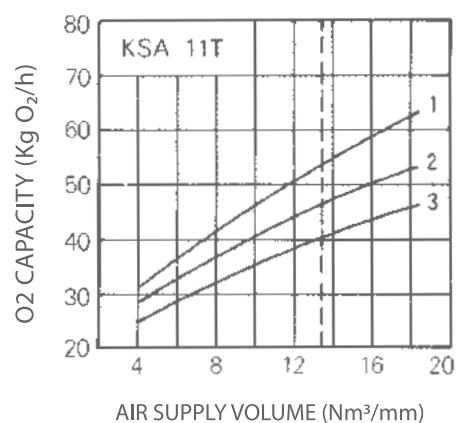
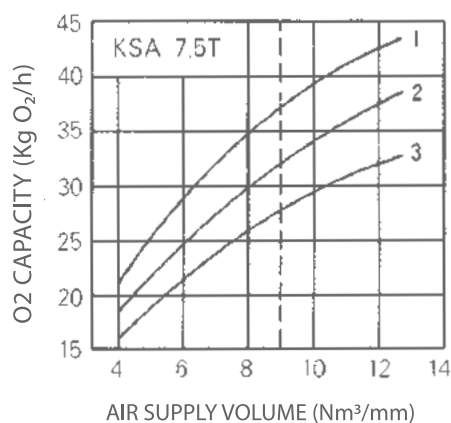
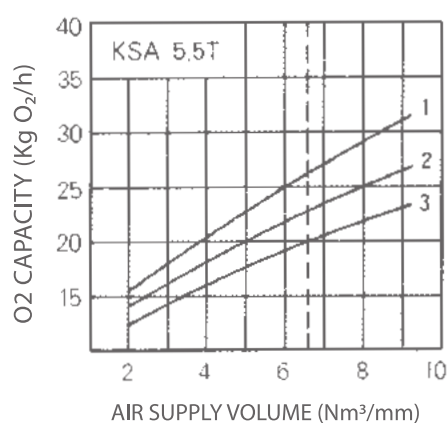


■ APPLICATIONS

- Air Supply to the sewage & waste water treatment plant
- Oxygen supply in the process of activated sludge process
- Denitrification and Dephosphorous purpose
- Aerobic / anaerobic digestion
- Sludge holding and maintenance



■ SELECTION CHART



HOW TO SET UP ADC SYSTEM (AUTO DISCHARGE CONNECTOR)

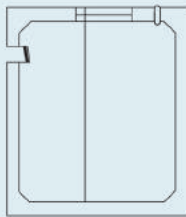
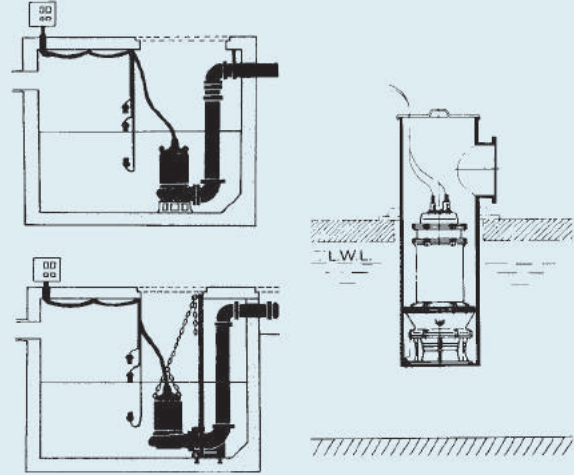
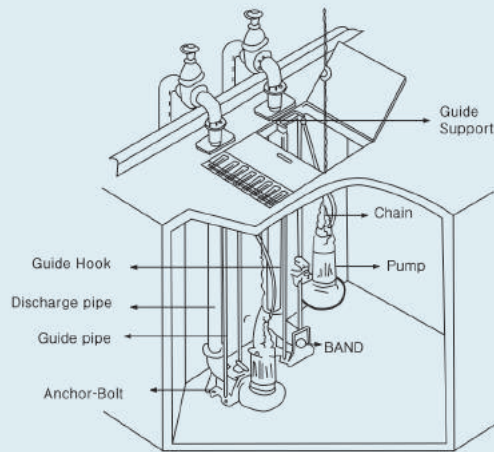


Fig 1

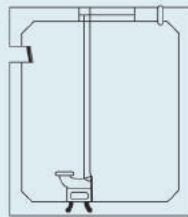


Fig 2

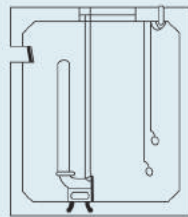


Fig 3

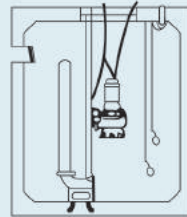


Fig 4

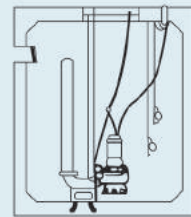


Fig 5

1. Choose the location of manhole according to location and wiring.
2. In reference to catalogue, the manhole should be designed by the measure from the end of pump to the wall side of pipe laying.
3. Arrange the size of manhole by the size of pump.
4. First, determine the location of guide pump to install from the end of manhole (RE:Fig1).
5. Install the pipe (RE:Fig2), then, install the discharge pipe laying.
6. Set in the snap float 1 meter from the bottom of pit in the low water level, and install a float switch on the suitable location with considering of the pit height.
7. After checking the degree of perpendicular of the guide pipe and the degree of horizontality of the discharge pipe, then validate the anchor bolt and the packing of pipe laying. When you confirm everything perfectly, take the guide pipe down slowly by using the lift.
8. After its setting up completely, Suspend it to the ring in the upper maintenance.
9. Connect the snap float line to the panel of automatic control and power cable. At this moment the line should not be sunk in the water. If it is placed in the water, it can cause the leakage of the electricity or the damage of motor.

INSTALLATION & MAINTENANCE MANUAL

■ CARRIAGE & TRANSPORT

- During transportation the pump should be secured in such a manner as to avoid shocks which may damage the pump.
- Handle the pump carefully.
- Use the lifting eye provided or slings the pump from the body and moves the pump with the aid of a hoist or proper handling equipment.
- The pump should never be moved by the cable. There is a high possibility of damage which may result in an electric short and risk of shock.
- The cable and cable inlet may be damaged leading to loss of water tightness and subsequent severe damage to the motor.

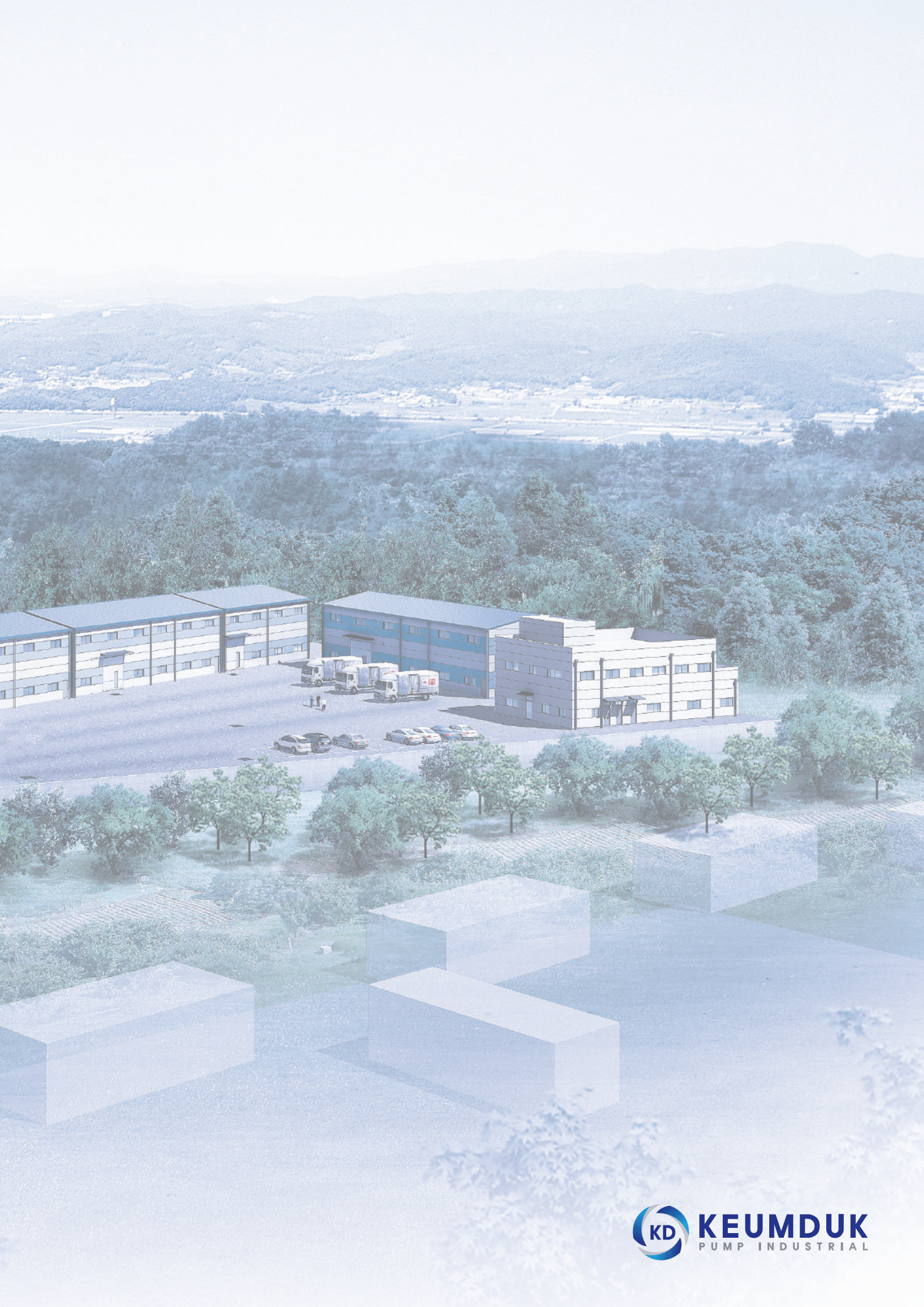
■ INSTALLATION

- Check that the dimensions of the sump are correct and large enough so that the pump can be installed and removed for servicing.
- Thoroughly clean and remove all rubbish from the sump and general installation area to prevent clogging the impeller causing possible motor failure.
- Check the accessories and controls are complete.
- To prevent mechanical damage, all cables laid under ground must be properly installed in underground electrical conduit specifically designed for this purpose, cables must not be installed directly in the ground or in concrete.

■ TROUBLE SHOOTING

Symptom	Cause	Remedy
Pump does not start or stops immediately after starting	1) Power Failure 2) Incorrect voltage 3) Significant voltage drop 4) Motor phase malfunction 5) Electric circuit connection fault 6) Faulty control circuit connection 7) Blown fuse 8) Faulty magnetic switch 9) Short circuit & breaker is functioning 10) Foreign matter clogging pump 11) Motor burnt out 12) Damaged motor bearings	1) Contact electric power company 2) Contact electric power company 3) Contact electric power company 4) Inspect motor & connections 5) Check electric circuit 6) Correct wiring 7) Replace with correct fuse type 8) Replace with correct type of magnetic switch 9) Locate short circuit and repair 10) Remove foreign matter 11) Rewind Motor 12) Replace bearings
Pump starts but stops after a short period of operation	1) Prolonged dry operation has activated motor protection 2) High liquid temperature has activated motor protector	1) Adjust (raise) the pump stop water level so that the motor remains partially covered during operation 2) Lower liquid temperature
Does not pump inadequate volume	1) Reverse Rotation 2) Significant drop in voltage 3) Operation 60Hz pump on 50Hz 4) Discharge head is high 5) Large piping loss 6) Low operating water level causes air suction 7) Leak from discharge piping 8) Clogged discharge piping 9) Foreign matter in suction inlet 10) Foreign matter clogging pump 11) Worn out impeller	1) Correct Rotation (See Operation3) 2) Contact electric power company and devise counter measures 3) Check Name Plate 4) Recalculate and adjust 5) Recalculate and adjust 6) Raise water level or lower pump 7) Inspect, repair 8) Remove foreign matter 9) Remove foreign matter 10) Disassemble and remove foreign matter 11) Replace impeller





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