For Earth, For Life

KUBOTA Vertical Mixed Flow Pump
for Seawater DF-VS series

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KUBOTA Vertical Mixed Flow Pump for Seawater DF-VS series

KUBOTA has developed a new Vertical Mixed Flow Pump (with optional Pull-out Type) for Seawater, fabricated from stainless steel plate. This new pump takes full advantage of the latest analysis techniques and fundamental technology based on many years of experience in pump manufacturing.

KUBOTA DF-VS series contribute in various applications such as Power Plant, Petrochemical Plant, Desalination Plant and etc.

<table>
<thead>
<tr>
<th>Power Plant</th>
<th>Desalination Plant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Circulating Water Pumps</strong></td>
<td><strong>Brine Recirculating Pumps</strong></td>
</tr>
<tr>
<td>EGAT Banpakong CCGT Power Plant #5, Thailand</td>
<td>Um Al Nar West Desalination Plant, Abu Dhabi, UAE</td>
</tr>
<tr>
<td>Bore</td>
<td>Bore</td>
</tr>
<tr>
<td>1,350mm</td>
<td>1,100mm</td>
</tr>
<tr>
<td>Capacity</td>
<td>Capacity</td>
</tr>
<tr>
<td>19,600m³/h</td>
<td>12,256m³/h</td>
</tr>
<tr>
<td>Total Head</td>
<td>Total Head</td>
</tr>
<tr>
<td>23m</td>
<td>67.5m</td>
</tr>
<tr>
<td>Motor</td>
<td>Motor</td>
</tr>
<tr>
<td>1,680kW</td>
<td>2,740kW</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Petrochemical Plant</th>
<th>Fertilizer Plant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sea Water Pumps</strong></td>
<td><strong>Brine Intake Pumps</strong></td>
</tr>
<tr>
<td>Tasnee Petrochemicals, Saudi Arabia</td>
<td>Arab Potash company New Main Brine Intake Pumping Station, Dead Sea Jordan</td>
</tr>
<tr>
<td>Bore</td>
<td>Bore</td>
</tr>
<tr>
<td>1,200mm</td>
<td>1,350mm</td>
</tr>
<tr>
<td>Capacity</td>
<td>Capacity</td>
</tr>
<tr>
<td>15,600m³/h</td>
<td>18,650m³/h</td>
</tr>
<tr>
<td>Total Head</td>
<td>Total Head</td>
</tr>
<tr>
<td>38m</td>
<td>60m</td>
</tr>
<tr>
<td>Motor</td>
<td>Motor</td>
</tr>
<tr>
<td>2,350kW</td>
<td>4,950kW</td>
</tr>
</tbody>
</table>

(Note) Some of the above Example are previous models.
KUBOTA Vertical Mixed Flow Pump for Seawater DF-VS series

Features

High Performance
- Bowl configuration has been simplified by using Duplex Stainless Steel plate while obtaining high efficiency.
- Improved suction performance has been achieved by using advanced analysis technology.

Lightweight and Compact
- Duplex Stainless Steel plate is used for pump main parts.
- 30% lighter compared to the previous stainless steel casting type.

High-reliability
- Improved corrosion resistant by using Duplex Stainless Steel.
- Fabrication based on reliable welding techniques of Duplex Stainless Steel through various element tests.

Easy in Maintenance
- Easy maintenance work by pump light weight.
- Shorter delivery time compared to pumps made of stainless steel casting.

Advanced Analysis Technology

Verification Test
- Fatigue Test
- Tensile Test
- Prototype Durability Test

Fluid Analysis
- Strength Analysis
- Strength Analysis
- Vibration Analysis
**Standard Specification**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bore size</td>
<td>φ1200～φ2200</td>
</tr>
<tr>
<td>Discharge Flange</td>
<td>ISO7005-1 PN-10</td>
</tr>
<tr>
<td>Installation</td>
<td>1 Floor / 2 Floor</td>
</tr>
<tr>
<td>Fluid</td>
<td>Seawater / Brackish</td>
</tr>
<tr>
<td>Temperature</td>
<td>0℃ ～ 50℃</td>
</tr>
<tr>
<td>Sealing</td>
<td>Gland Packing / Mechanical seal</td>
</tr>
</tbody>
</table>
| Thrust bearing     | Anti-friction, oil bath lubrication
| Radial bearing     | Rubber or Teflon, water lubrication |

**Standard Material**

- **Wet parts**: Duplex Stainless Steel
- **Dry parts**: Carbon Steel

*Duplex Stainless Steel has a two-phase microstructure consisting of grains of ferritic and austenitic stainless steel which leads to its excellent anti-corrosion and high strength properties. Super Duplex Stainless Steel can be applied as option.*

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**Range Map**

![Range Map Image]

**Pull-out type Advantage**

- **Pull-out Type**
- **Pull out Parts**
- **Stationary Parts**

Since the portion pulled out for maintenance is limited to the rotating parts, smaller lifting capacity is sufficient and maintenance works is easier.

**Option**

Rotating parts (such as Impeller, Main Shafts) can be pulled out from column pipe for easy maintenance.

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**Supply experience**

Arab Potash company New Main Brine Intake Pumping Station, Dead Sea, Jordan φ1350×4950kW×8sets

* Column length : 25m
* Material : Super Duplex Stainless Steel

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**note**) Contact us for any specification other than the above.