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## KUBOTA Vertical Mixed Flow Pump for Seawater DF-VS series



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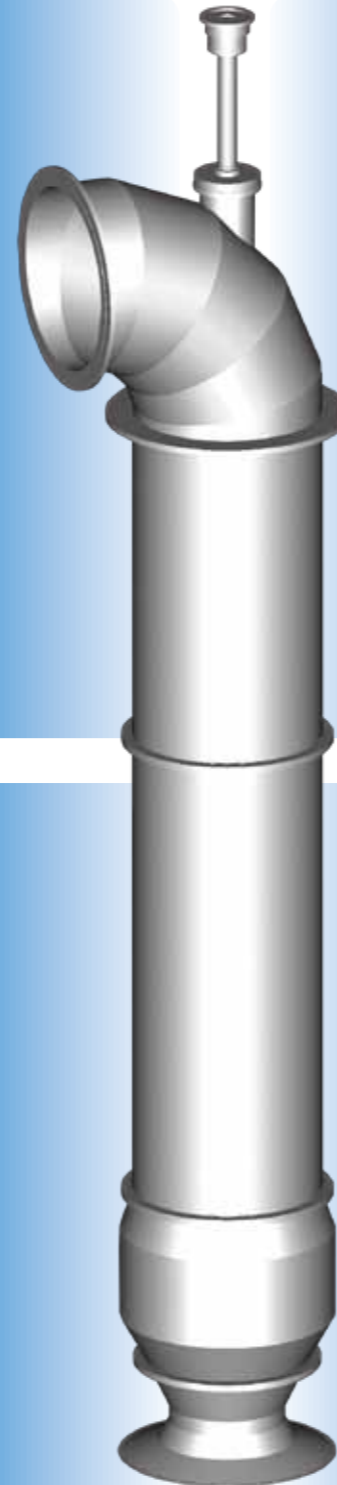
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# KUBOTA Vertical Mixed Flow Pump for Seawater DF-VS series

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.



Example of application

## Power Plant



### Circulating Water Pumps

EGAT Banpakong CCGT Power Plant #5, Thailand

Type	Vertical Mixed Flow Pump
Bore	1,350mm
Capacity	19,600m <sup>3</sup> /h
Total Head	23m
Motor	1,680kW

Example of application

## Desalination Plant



### Brine Recirculating Pumps

Um Al Nar West Desalination Plant Abu Dhabi, UAE

Type	Vertical Mixed Flow Pump
Bore	1,100mm
Capacity	12,256m <sup>3</sup> /h
Total Head	67.5m
Motor	2,740kW

Example of application

## Petrochemical Plant



### Sea Water Pumps

Tasnee Petrochemicals Saudi Arabia

Type	Vertical Mixed Flow Pump
Bore	1,200mm
Capacity	15,600m <sup>3</sup> /h
Total Head	38m
Motor	2,350kW

Example of application

## Fertilizer Plant



### Brine Intake Pumps

Arab Potash company New Main Brine Intake Pumping Station, Dead Sea Jordan

Type	Vertical Mixed Flow Pump (Pull Out)
Bore	1,350mm
Capacity	18,650m <sup>3</sup> /h
Total Head	60m
Motor	4,950kW

(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

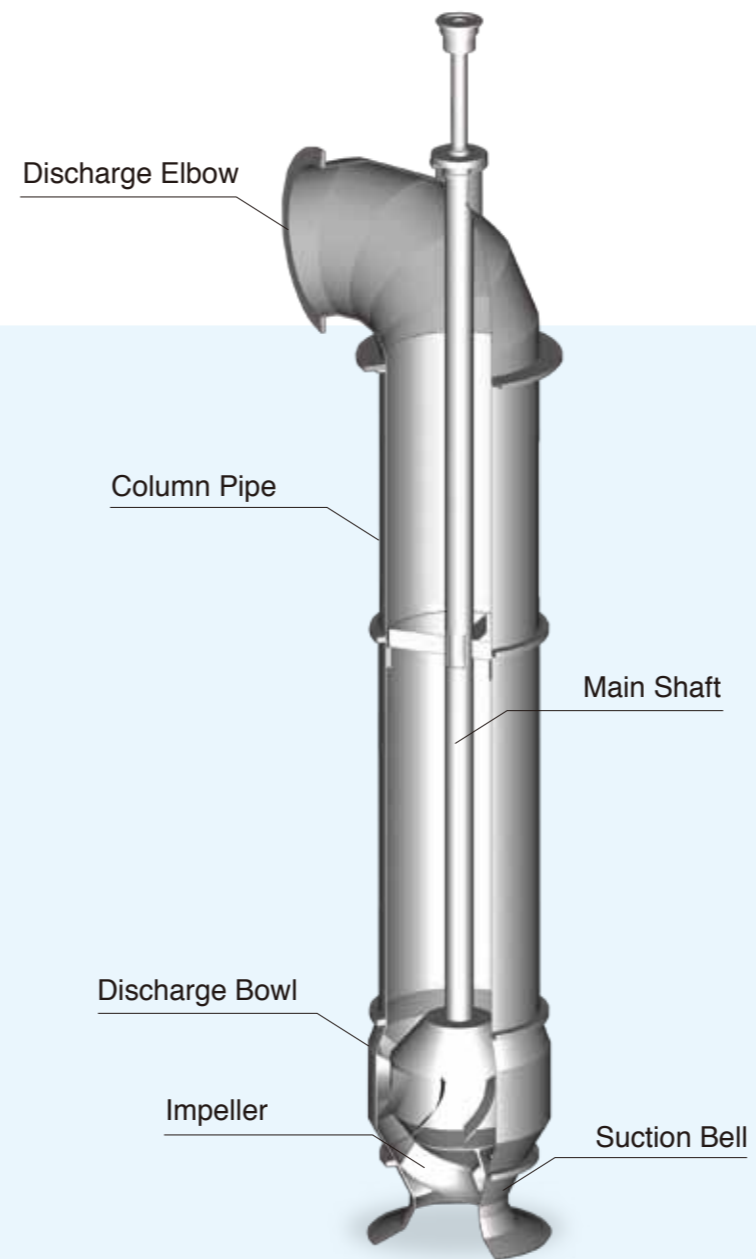
- Duplex Stainless Steel plate is used for pump main parts.
- 30% lighter compared to the previous stainless steel casting type.

### High-reliability

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

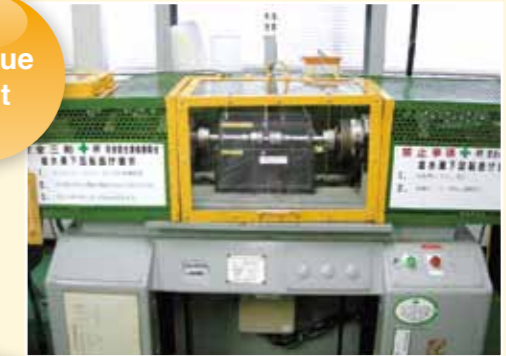
### Easy in Maintenance

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



## Verification Test

### Fatigue Test



### Tensile Test

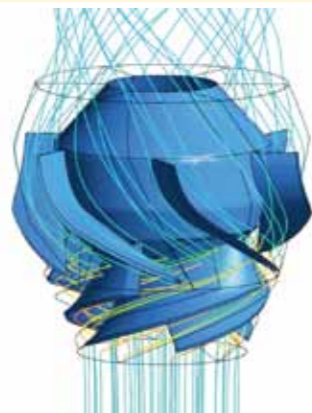


### Prototype Durability Test

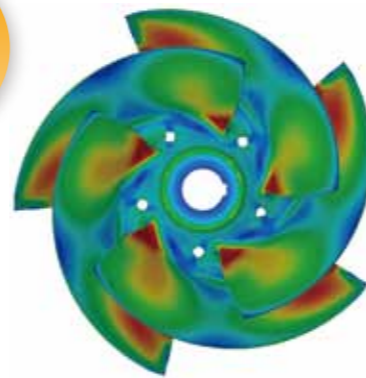


## Advanced Analysis Technology

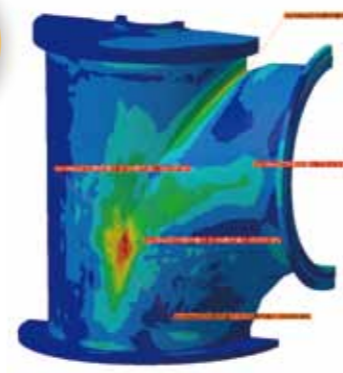
### Fluid Analysis



### Strength Analysis



### Strength Analysis



### Vibration Analysis



## Standard Specification

Bore size	φ1200~φ2200
Discharge Flange	ISO7005-1 PN-10 Option) ASTM, ANSI and other standard
Installation	1 Floor / 2 Floor
Fluid	Seawater / Brackish
Temperature	0°C ~ 50°C
Sealing	Gland Packing / Mechanical seal
Thrust bearing	Anti-friction, oil bath lubrication Option) Tilting-pad type
Radial bearing	Rubber or Teflon, water lubrication

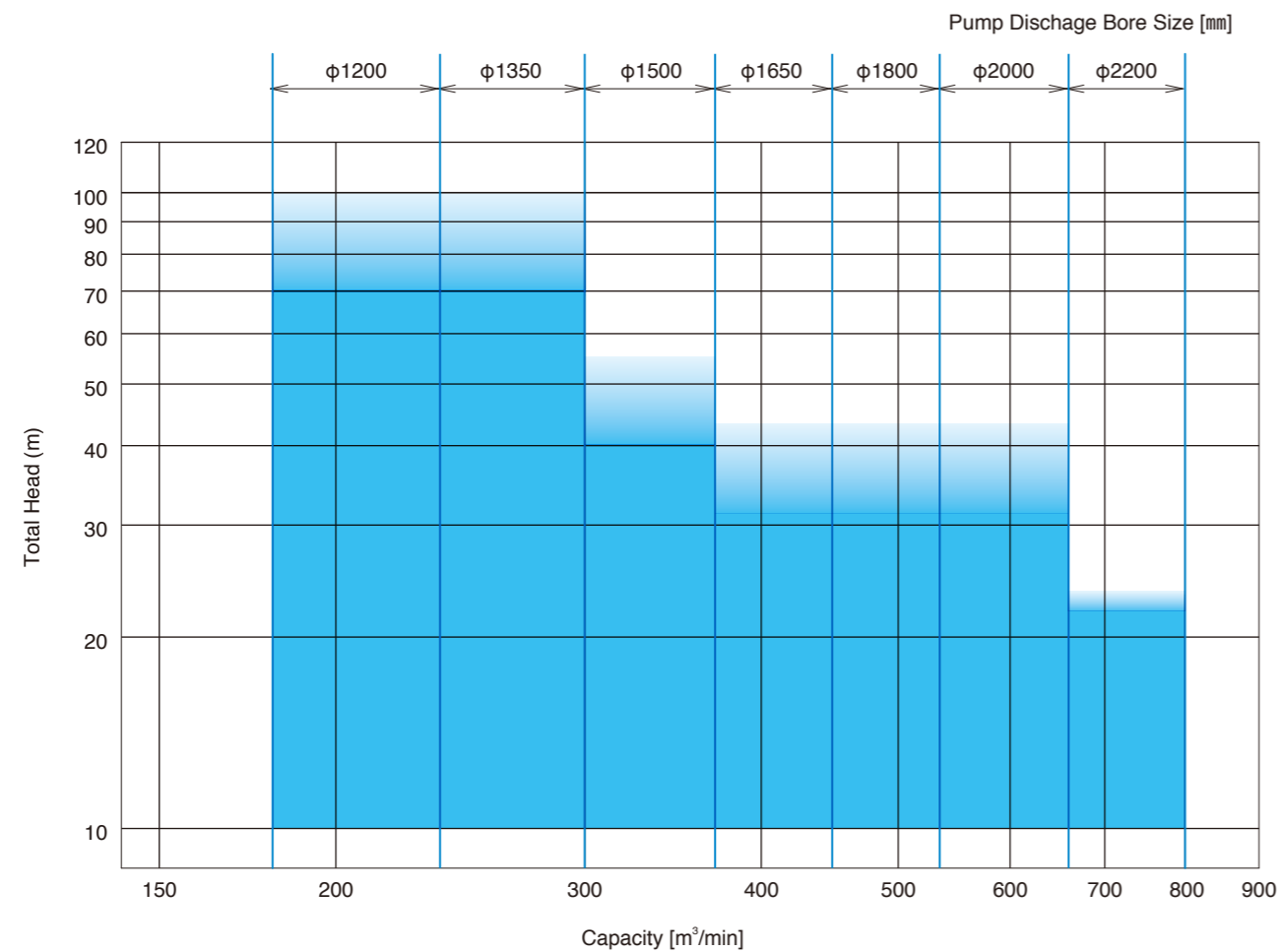
## Standard Material

Wet parts	Duplex Stainless Steel
Dry parts	Carbon Steel

\*Duplex Stainless Steels 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.

## Range Map



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

## OPTION

### Pull Out Type

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

### Pull-out type Advantage

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



Pull out Parts

Stationary Parts

### Supply experience

Arab Potash company New Main Brine Intake Pumping Station, Dead Sea, Jordan φ1350x4950kWx8sets



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



Lifting Test at Factory