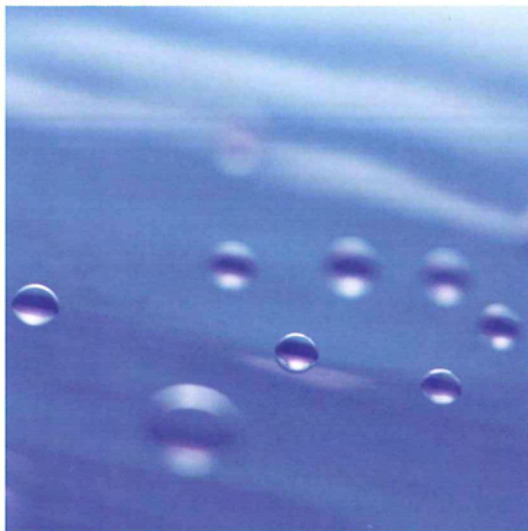


MSH/MHH

High Pressure Feed Pump



TORISHIMA PUMP



Make Water Economically & Environment Friendly with TORISHIMA's Engineered Technology.

Torishima Pump, founded in 1919 in Osaka, Japan, has been providing engineered pump solutions across all industries for nearly 100 years. For over 30 years, Torishima has been supplying high pressure pumps for RO Desalination and Water Transfer Duties.

As a result, there are now over 1000 Torishima pumps in RO Desalination Plants around the world.

The demand of growing populations is one of the great challenges for all nations around the world. This requires innovative pumping solutions to provide clean drinking water to all. Torishima are committed to provide innovative, reliable and efficient pumping solution into the 21st century.

Design Features

Performance Range

- ◆ Flow : 400 - 3,000 m³/h
- ◆ Head : max. 800 m / 80 bar

Pump Classification

- ◆ Axially Split multistage between bearings

Liquid

- ◆ Seawater
- ◆ Potable Water
- ◆ Raw Water
- ◆ Brackish Water

Impeller

- ◆ Closed
- ◆ Single / Double Entry

Shaft Seal

- ◆ Cartridge type – API PLAN 11

Flanges

- ◆ International design standard – ISO, ANSI, BS.

Application

- ◆ High Pressure RO Feed
- ◆ Water Transmission
- ◆ Raw Water Transfer

Material Option

- ◆ Super Duplex Stainless Steel
- ◆ Duplex Stainless Steel
- ◆ Stainless Steel
- ◆ Carbon Steel + Stainless Steel Rotating element
- ◆ Ductile Iron + Stainless Steel Rotating element

Bearing

- ◆ Radial Bearing-Sleeve type
- ◆ Thrust Bearing-Anti friction type
 - Tilting pad self lubricated
 - Tilting pad forced lubricated

Drives

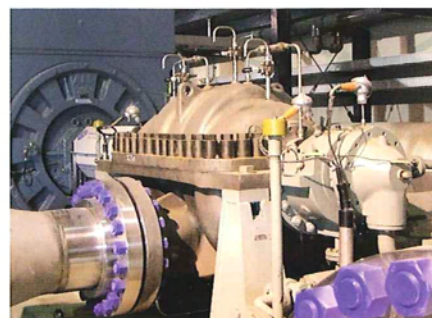
- ◆ Electric Motor
- ◆ Electric Motor + Pelton Turbine



Shuwaikh RO Project (Kuwait), 2009 ;—
MHH200/4
704m³/h at 660m
1800kW



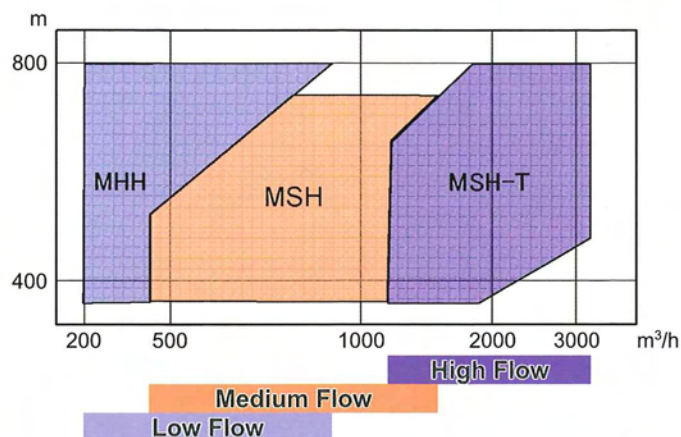
Hamma (Algeria), 2006 ;—
MSH300/2
1072m³/h at 543m
2250kW



Gold Coast (Australia), 2008 ;—
MSH300/2T
2143m³/h at 607m
4800kW

Features of MSH / MHH Range

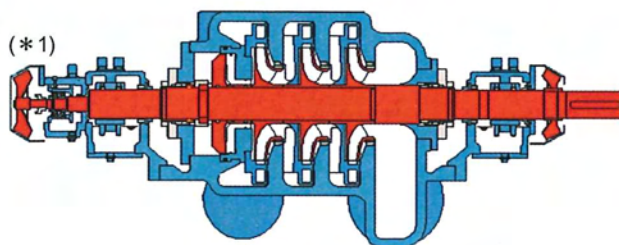
- Optimum Suction Performance-Low NPSHr.
- Easy of Maintenance.
- Reduce Energy Cost.
- Long Bearing Life.
- Low Life Cost.



Sectional Feature

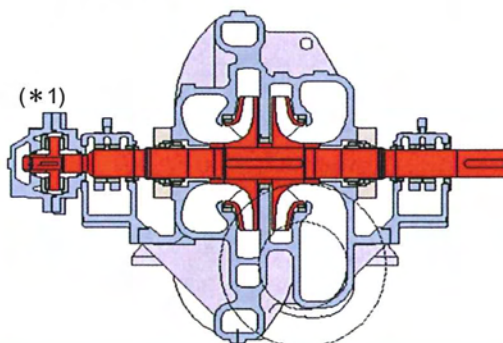
MHH (Low Flow)

MHH is three or more stages axially split casing pump. Diffuser guides flow from impeller discharge to impeller suction eye. Thrust forces are compensated by a hydraulic balancing device.



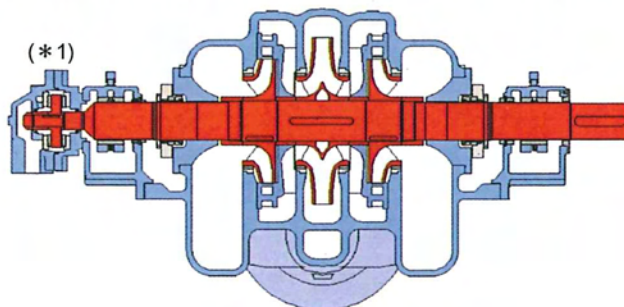
MSH (Medium Flow)

MSH is two stages, axially split casing double volute pump. Impellers are installed back to back in order to reduce axial thrust force. Impeller & volute design are matched to provide optimum efficiency.

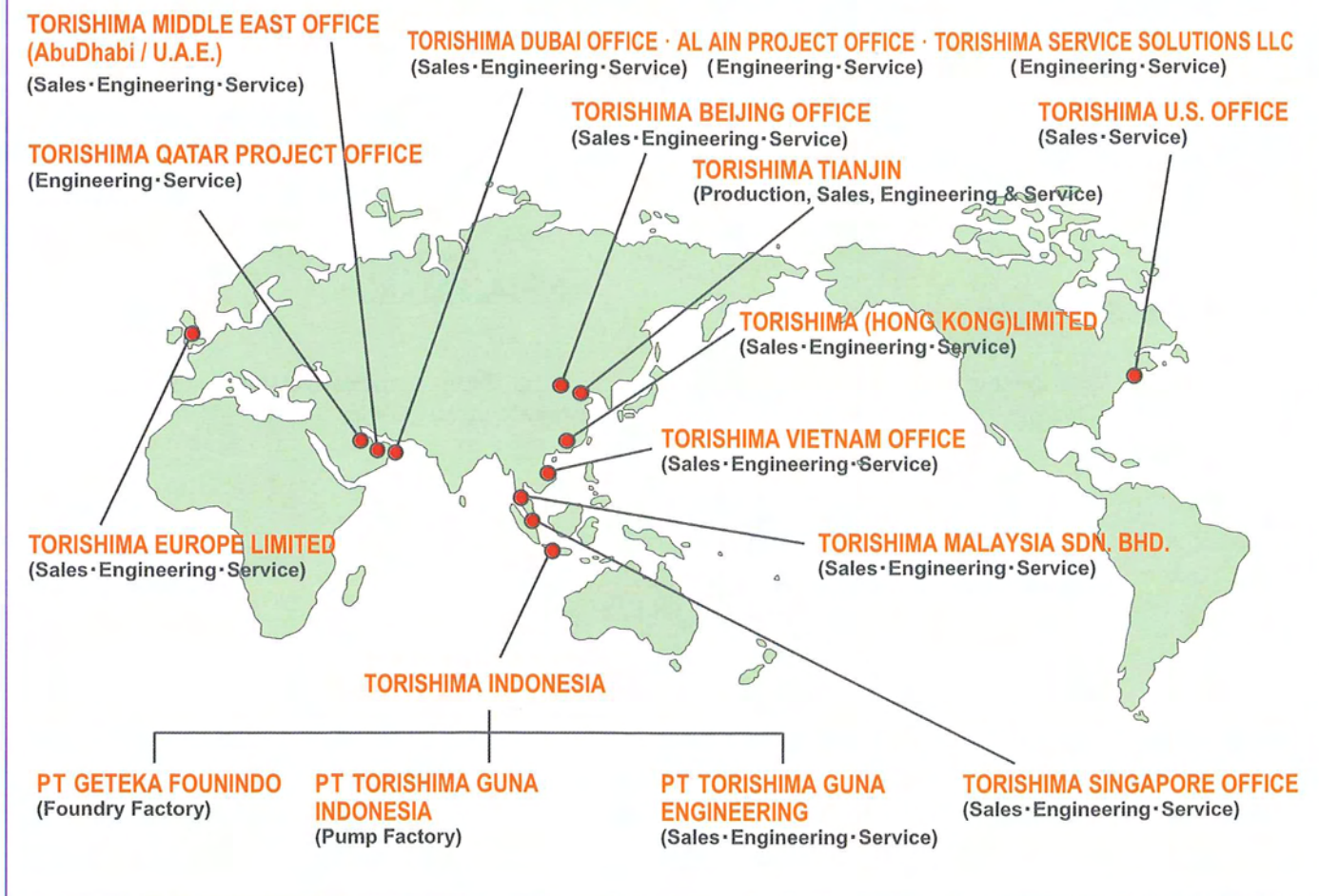


MSH-T (High Flow)

MSH-T has twin suction branches to provide optimum suction performance. The flows are fed into a double entry second stage. This compact back to back arrangement balances axial hydraulic thrust and provides optimum efficiency for high flow operation.



(*1) Option available for Anti-friction thrust bearing in place of tilting pad.



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