Horizontal Mutistage Ring Section Pump

TORISHIMA MMK and MML are horizontal, radially split ring section multistage pumps. The casings are sealed by O-ring and held together by the bolts. The stage casing and the tie bolts are encased in a steel cladding. The pump feet are arranged either foot-mounted or center line mounted according to the number of stages and the temperature.

Applications
- Boiler Feed
- Condensate
- Fire-fighting
- District Installations for Pumping Clean Water
- General Water Supply

Technical Data
- Capacity: up to 1,800m³/h (7,930USgpm)
- Total Head: up to 500m (1,640ft)
- Temperature: up to 230 °C (446 °F)
- Max, Pump Suction Pressure: up to 30bar (435psi)
- Max, Pump Discharge Pressure: up to 54bar (783psi)
- Speed: up to 3,600min⁻¹
- Size: DN 40 to 250mm (1⁷/₈ to 10"

Materials
The followings are used for standard material combinations:

| Suction, discharge and stuffing box casing | Cast iron, Bronze, Cast seel, Ductile iron |
| Stage casing | Cast iron, Bronze, Cast seel, Ductile iron |
| Impellers, and diffusers | Cast iron, Bronze, Stainless steel |
| Shaft | Carbon steel, Stainless steel |
| Balance disc/seat | Cast iron, 13%Cr cast steel, 18%Cr cast steel, |
| Casing wear ring | Cast iron, Bronze, 2.5%Ni cast iron |

Balancing Device Recommendation

![Balancing Device Recommendation Chart]

Fire-fighting pump
Booster pumps in water supply system of buildings
Boiler feed pumps in district heating and cooling plant
Distributing pumps in small-capacity water works
Flexible Design to Meet Your Application Requirements

**Bearing Options**
- MMK—A roller bearings at the suction end, and a ball bearing at the discharge end
- MML—Roller bearings on both ends
- All bearing fitted with oil level indicator as standard

**Flexible nozzle design**
- Nozzle orientation viewed from driver side
  - T: Suction,  : Discharge, --: Foot

**Flange Options**
- to JIS, ASME, DIN and BS

**Stuffing Box Options**
- designed to suit pumped fluid
  - Cooled
  - Uncooled

**Balancing Device Options**
- MMK—Deep groove or angular contact ball bearings+balance holes in impellers
- MML—Balance disk and balance seat

**Shaft Seal Options**
- Gland packing
- Mechanical seal

Cooled stuffing box
MML—Balance disk and seat
Single acting balanced mechanical seal Type; HB2700BNUH
On MML pumps, the minimum delivery pressure should not be allowed to drop below 12.7 bar (184 psi) to maintain balance device clearance.
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