

# MMK MML

Horizontal Multistage Ring Section Pump



# Horizontal Multistage 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

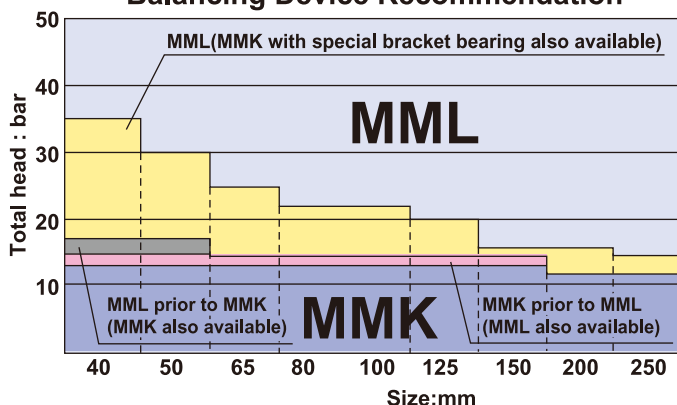
Capacity	up to 1,800m <sup>3</sup> /h (7,930USgpm)
Total Head	up to 500m (1,640ft)
Temperature	up to 230°C (446°F)
Max. Pump Suction Pressure	up to 30bar (435psi)
Max. Pump Discharge Pressure	up to 54bar (783psi)
Speed	up to 3,600min <sup>-1</sup>
Size	DN 40 to 250mm (1 <sup>2</sup> / <sub>3</sub> to 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



Booster pumps in water supply system of buildings



Boiler feed pumps in district heating and cooling plant



Distributing pumps in small-capacity water works



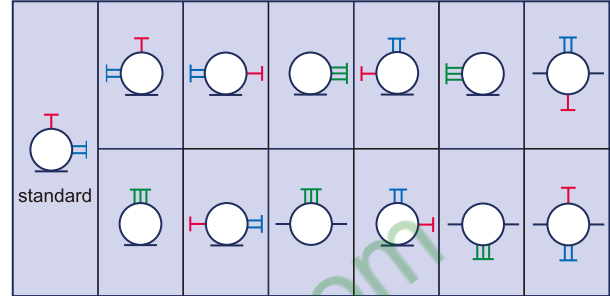
Fire-fighting pump

# Flexible Design to Meet Your Application Requirements

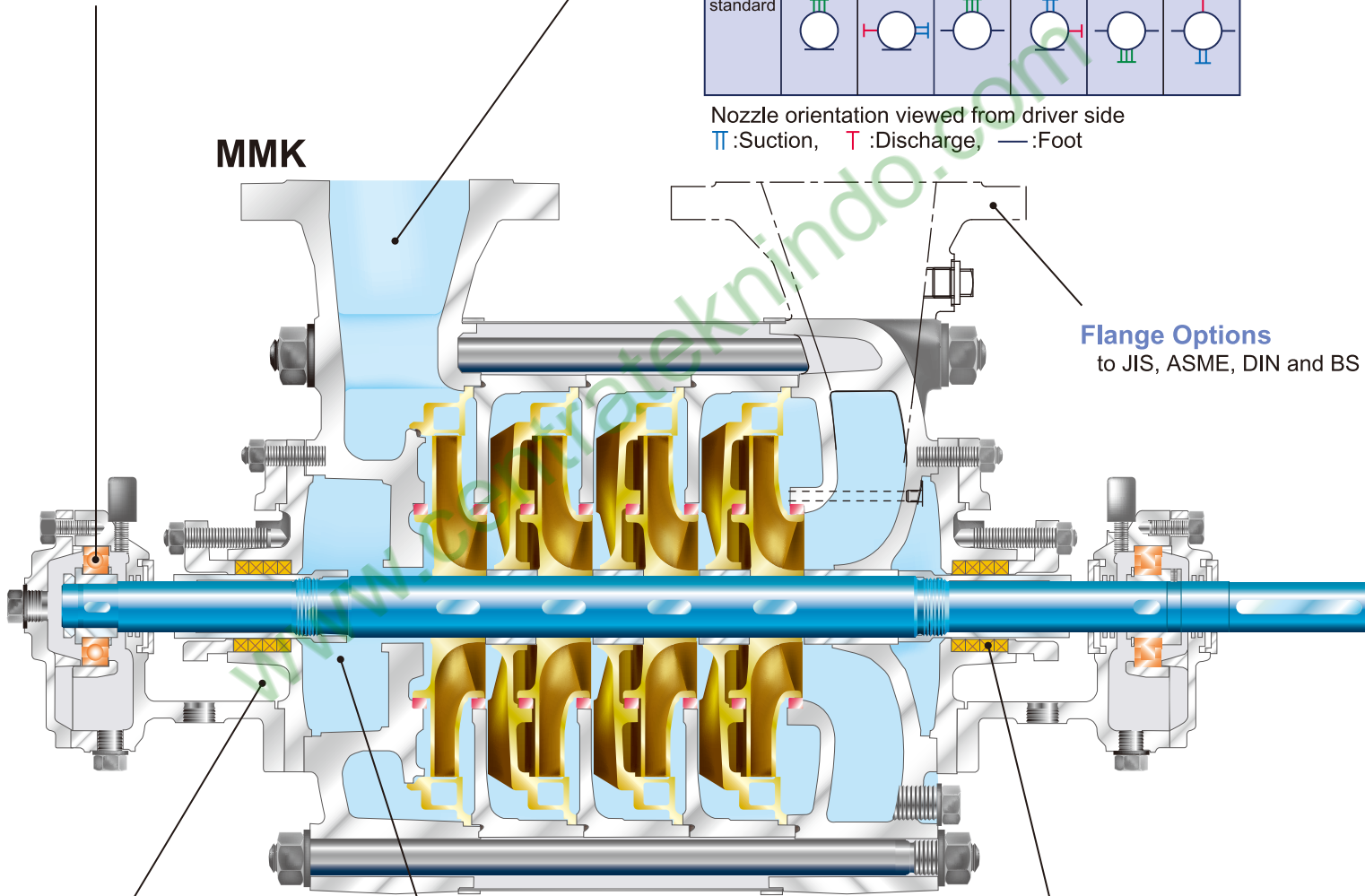
## Bearing Options

- 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, T :Discharge, — :Foot



## Stuffing Box Options

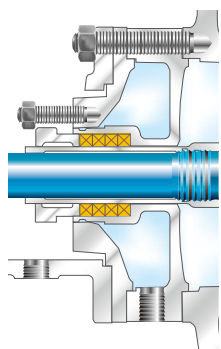
- designed to suit pumped fluid
- Cooled
- Uncooled

## Balancing Device Options

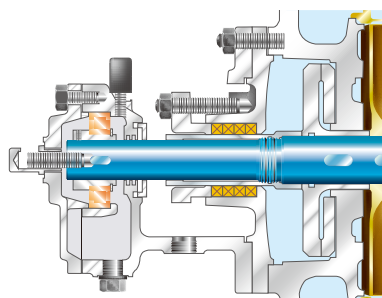
- MMK—Deep groove or angular contact ball bearings+balance holes in impellers
- MML—Balance disk and balance seat

## Shaft Seal Options

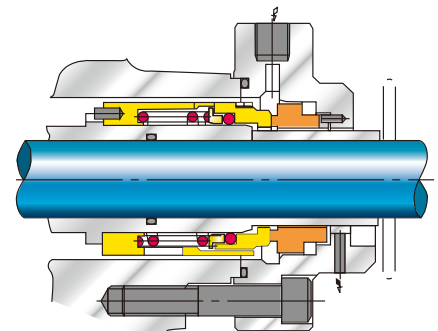
- Gland packing
- Mechanical seal



Cooled stuffing box



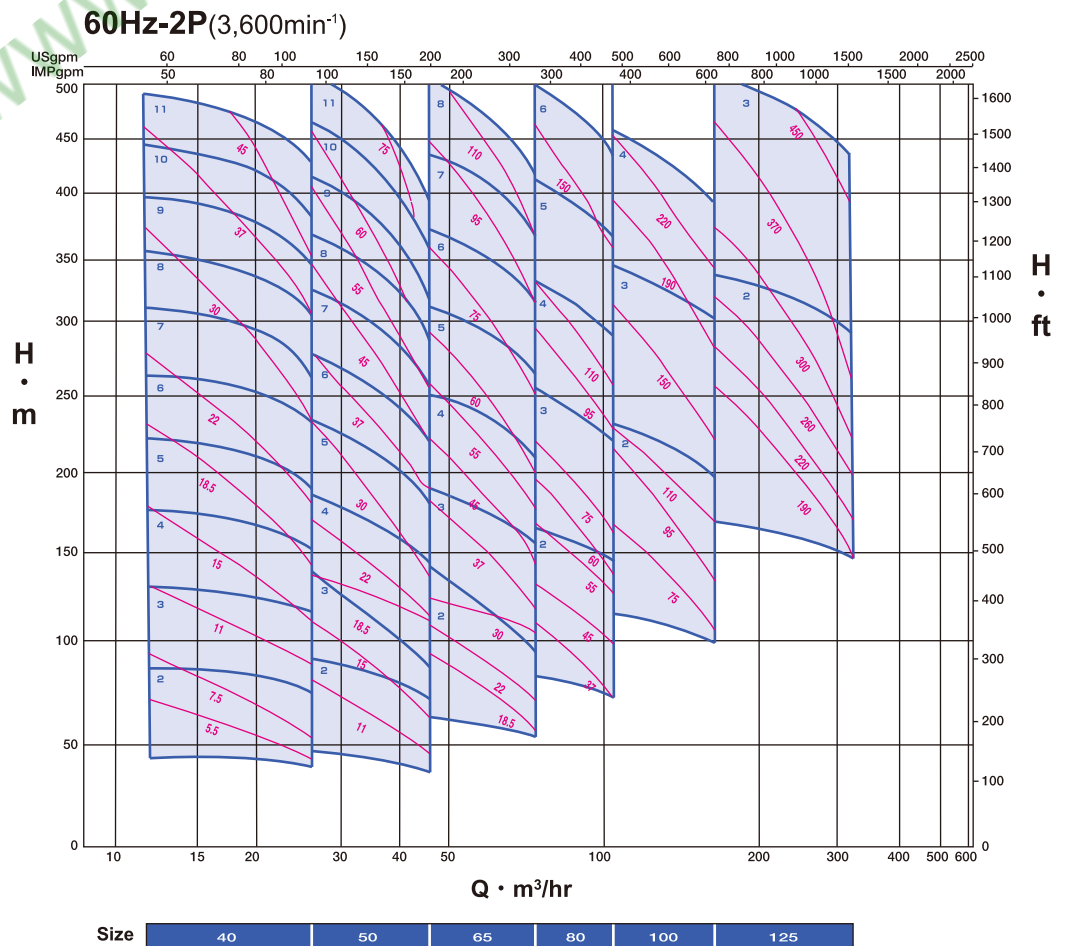
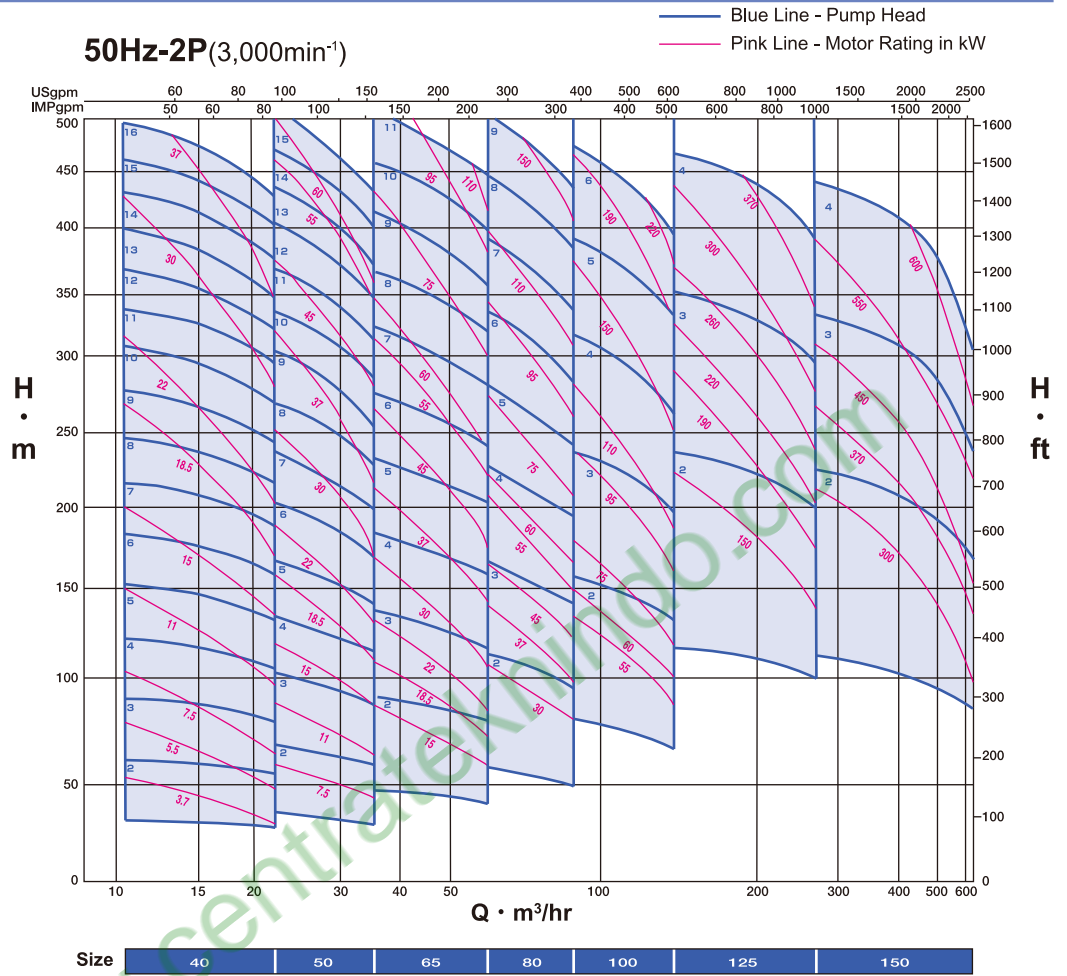
MML—Balance disk and seat



Single acting balanced mechanical seal  
 Type:HB2700BNUH

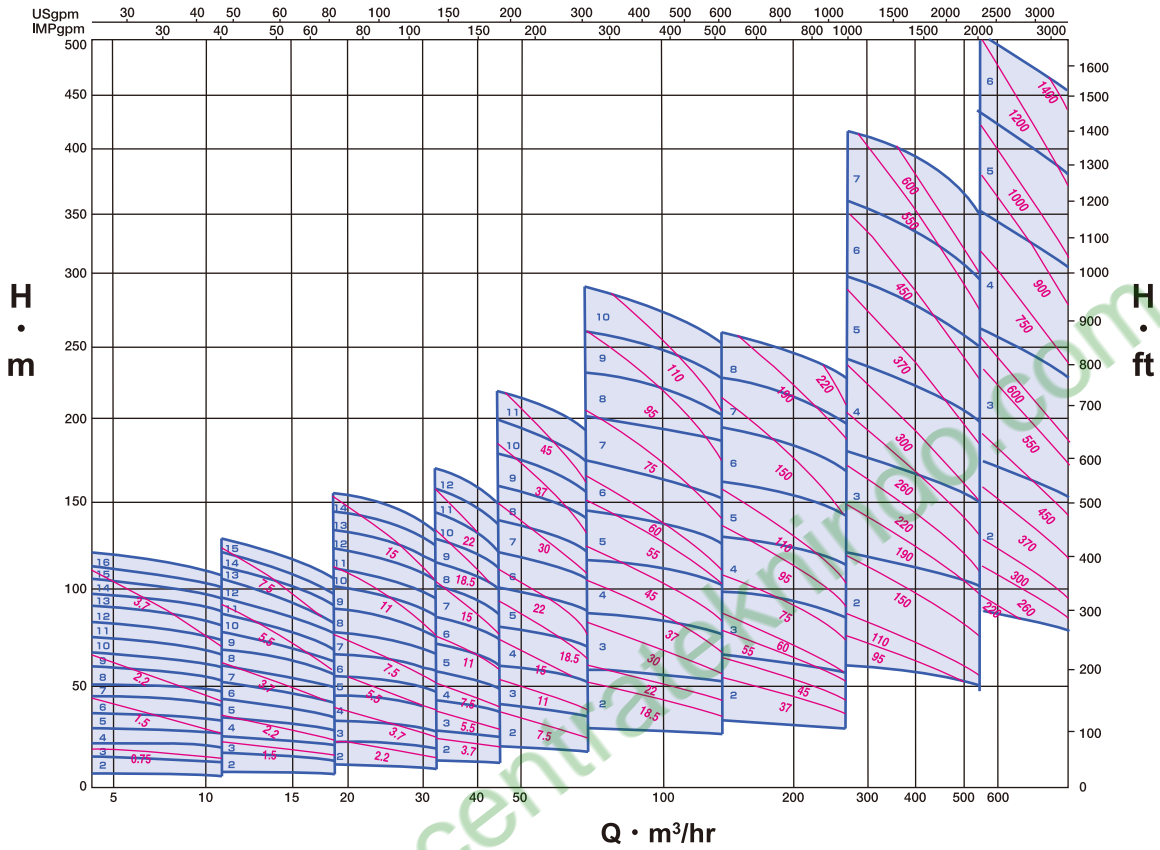
# Performance Range

On MML pumps, the minimum delivery pressure should not be allowed to drop below 12.7bar(184psi) to maintain balance device clearance.

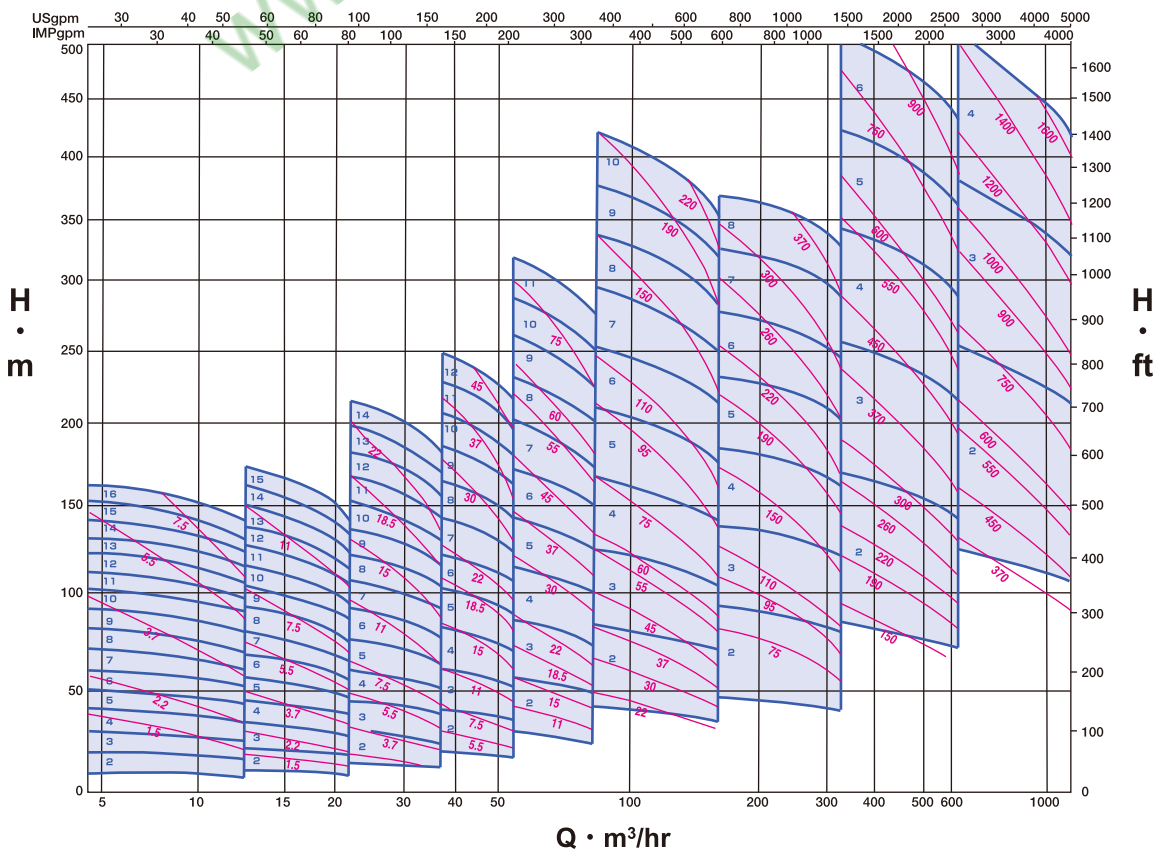


### 50Hz-4P(1,500min<sup>-1</sup>)

Blue Line - Pump Head  
Pink Line - Motor Rating in kW



### 60Hz-4P(1,800min<sup>-1</sup>)



# Torishima Pump Global Network



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