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GENERAL

TORISHIMA MMO, is a high pressure centrifugal pumps are pumps of ring section type. They are suitable for clean media free from abrasive and solid particles and not liable to attack the pump mechanically (*abrasion*) or chemically (*corrosion*).

APPLICATIONS

They are used in waterworks, pressure boosting stations, sprinkling and irrigation installations, fountains, fire-fighting systems and in mechanical engineering. They handle boiler feedwater and condensate, circulate cooling water and hotwater and are used for power water generation and in carwashes.

PERFORMANCE RANGE

Capacity : up to 36 l/s (130 m³/h)
 Total Head : up to 400 m
 Operation Pressures : up to 40 bar
 Operating Temperatures : - up to +110 °C (GP)
 - up to +120 °C (MS)

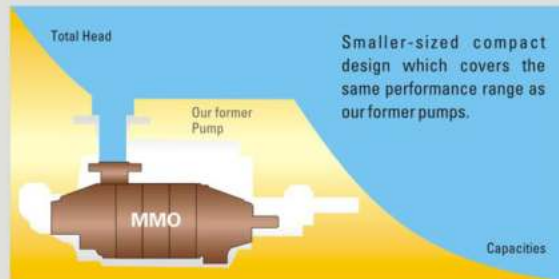
MMO pumps can also be used as circulating pumps in high pressure systems because even the suction casing is designed for 40 bar.

The only restriction is that the sum of the maximum suction pressure plus total head must not exceed 40 bar at zero capacity.

THOROUGHLY RATIONALIZED DESIGN TO MEET ANY SPECIFIED REQUIREMENTS

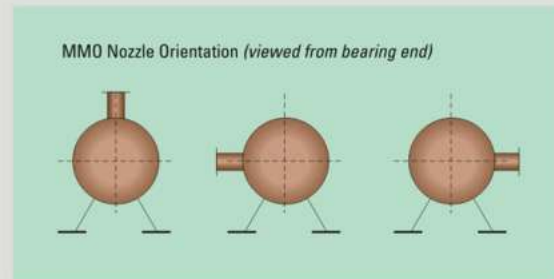
Simple and high performance design contributes to reduction of equipment cost and energy-saving

Hydrodynamically simplified pump design resulted in attractive cost reduction. Besides not only the number of stages is lower but also pump size is smaller maintaining the same performance as our former models.



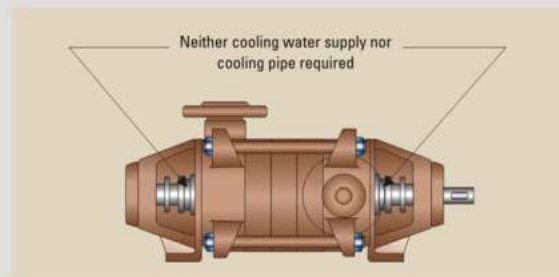
Nozzle orientation can be freely chosen

The pump feet, integrally cast onto the bearing housings, allow free orientation of both suction and discharge nozzles, as illustrated on the right.



Shaft seal requires no cooling for temperature range up to 120 °C

Elimination of cooling water feed and return piping and monitoring instruments.



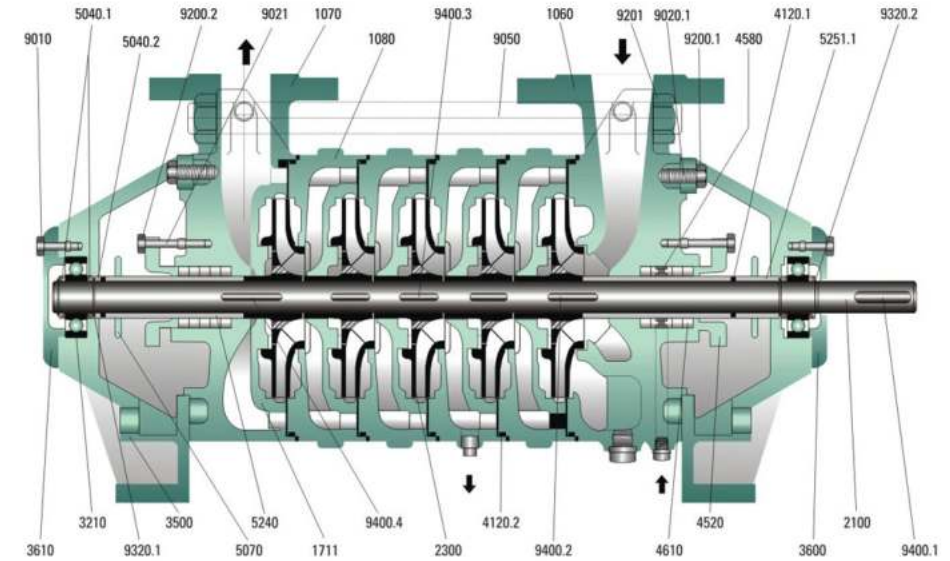
Variety of material combination

Various materials are available, so as to provide wide application range.

MATERIAL COMBINATION	
Part Designation	Materials
Suction Casing, Stage Casing	Cast Iron, Bronze
Discharge Casing	Cast Iron, Bronze, Carbon Steel, Ductile Cast Iron
Impeller	Cast Iron, Bronze
Shaft	Carbon Steel, Stainless Steel
Shaft Protecting Sleeve	Stainless Steel

SECTIONAL DRAWING & LIST COMPONENTS

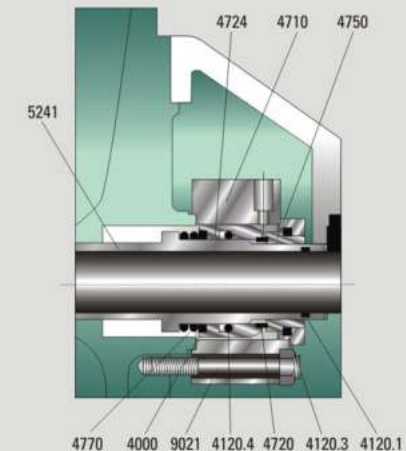
* typical drawing only



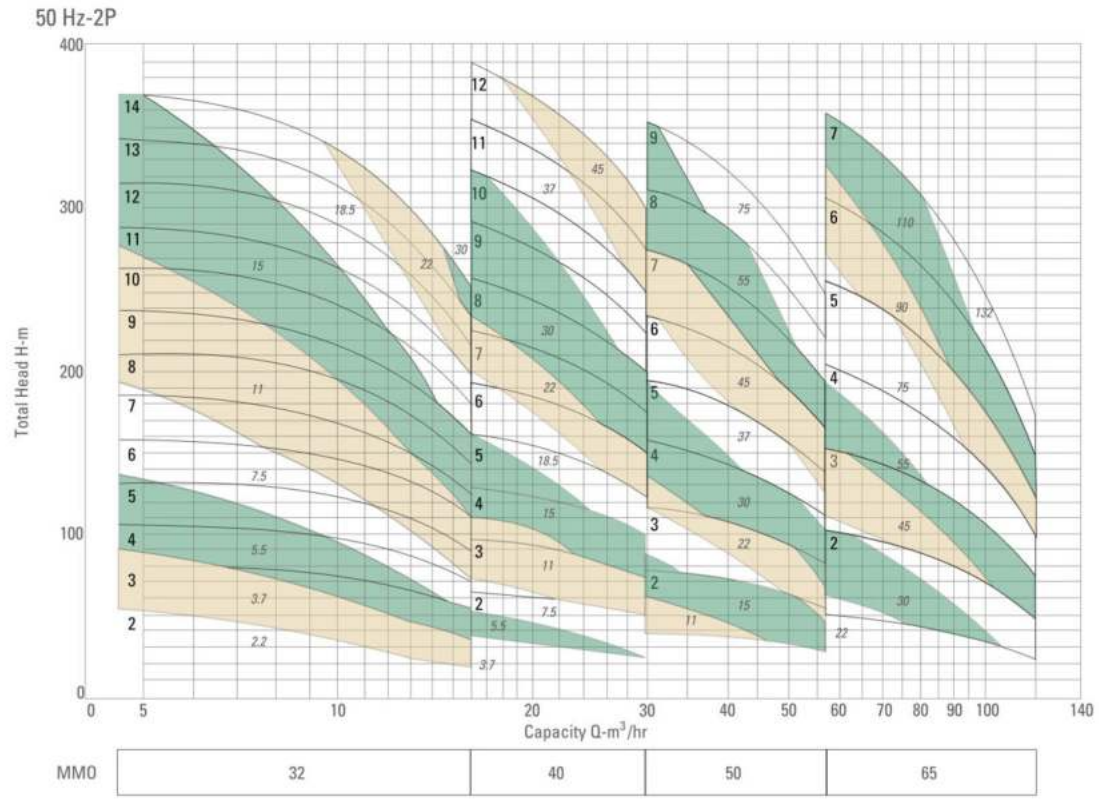
PART NO.	PART DESIGNATION	MATERIAL	PART NO.	PART DESIGNATION	MATERIAL
1060	Suction Casing	FC250	5070	Deflector	S45C
1070	Discharge Casing	FC250	5240	Packing Sleeve	SUS420J2
1080	Stage Casing	FC250	5251.1	Suction Sleeve	FC200
1711	Diffuser, Last Stage	FC200	9010	Hexagonal Bolt	SS400
2100	Shaft	SUS420J2	9020.1	Stud Bolt	S45C
2300	Impeller	FC200	9021	Gland Bolt	SUS304
3210	Ball Bearing	NO.63--DDUC3	9050	Tie Bolt	S45C
3500	Bearing Bracket	FC250	9200.1	Hexagonal Nut	SS400
3600	Bearing Cover	FC200	9200.2	Hexagonal Nut	SUS304
3610	Bearing End Cover	FC200	9201	Hexagonal Nut	SS400
4120.1	O-Ring	VITON	9320.1	Snap Ring	SK5
4120.2	O-Ring	VITON	9320.2	Snap Ring	SK5
4520	Gland	FC200	9400.1	Key	S45C
4580	Lantern Ring	BC	9400.2	Key	S45C
4610	Gland Packing	Carbon Graphite	9400.3	Key	S45C
5040.1	Spacer Ring	FC200	9400.4	Key	S45C
5040.2	Spacer Ring	FC200			

MECHANICAL SEAL

PART NO.	DESIGNATION
4000	Flat Gasket
4120.1	O-ring
4120.3	O-ring
4120.4	O-ring
4710	Cover Seal
4720	Seal Face
4724	Seal Face Housing
4750	Stationary Seat
4770	Spring
5241	Shaft Sleeve
9021	Gland Bolt



SELECTION CHARTS



SELECTION CHARTS

