

TYPE MP

SEALLESS

MID-SIZE STAINLESS STEEL MAGNET DRIVE PUMPS

Motor output :

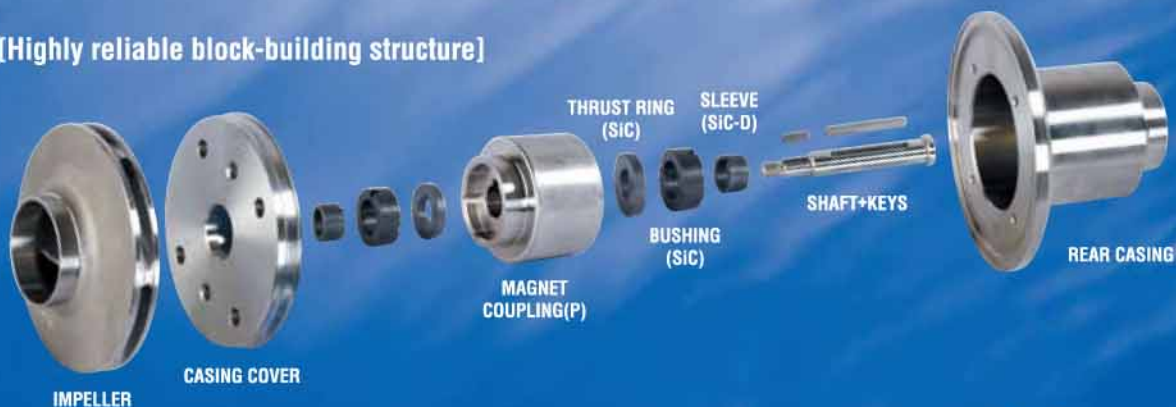
0.75kW to 7.5kW

**Extention
5.5kW,7.5kW**

The MP pumps are considered the core of the MAGPAC series pumps. Their three outstanding features, **sealless design**, **reliability** and **practically maintenance free** service makes them the most versatile of all the MAGPAC series pumps.

With efficiencies equaling mechanical seal pumps and **SiC-D dry-run-withstandable bearings**, these pumps are the logical choice for nearly all pump applications. For temperatures exceeding these specification select additional models below.

[Highly reliable block-building structure]



**Seal less
magnet drive pump**

TYPE MP -30°C~+150°C
0.75kW~7.5kW



For liquid of low temperature

TYPE ML -80°C~+150°C 0.75kW~7.5kW

- ▶ Nitrogen purge port is provided to prevent moisture from freezing in the frame adapter.
- ▶ Rare earth Nd magnets are used.
- ▶ Low temperature gasket material is used.



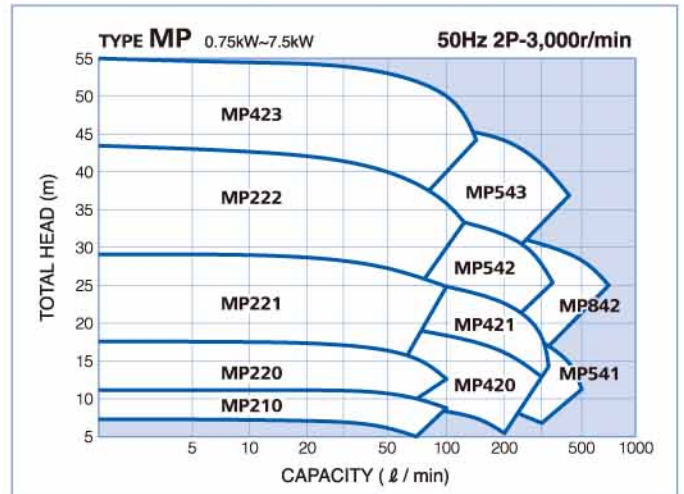
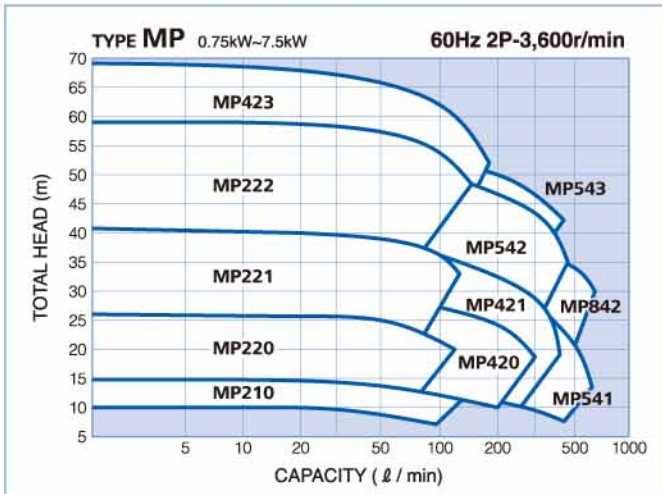
For liquid of high temperature

TYPE MH RT~+280°C 0.75kW~7.5kW

- ▶ Fin type frame adapter dissipates heat away from pump.
- ▶ Rare earth SmCo magnets are used.
- ▶ High temperature gasket material is used.



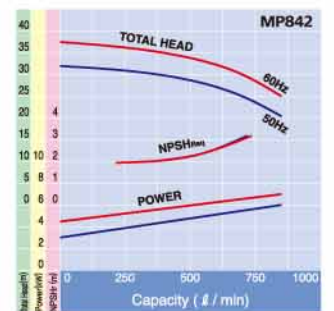
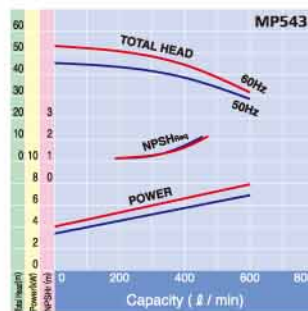
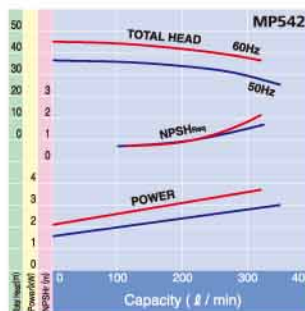
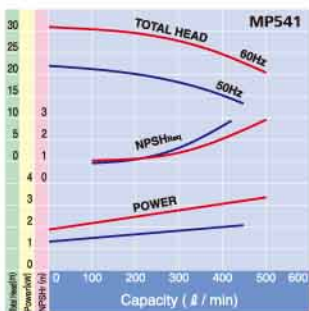
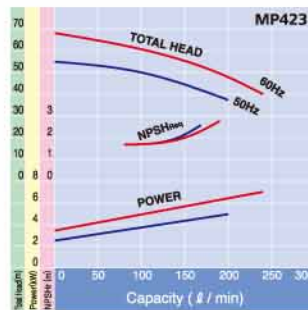
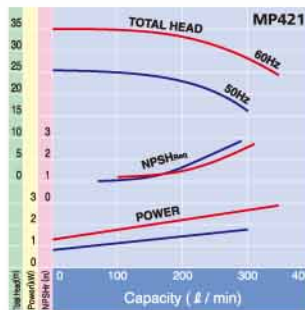
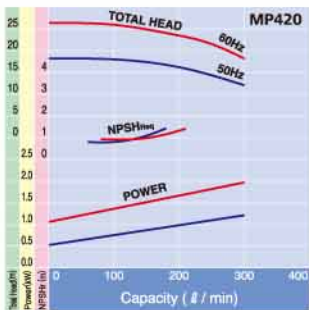
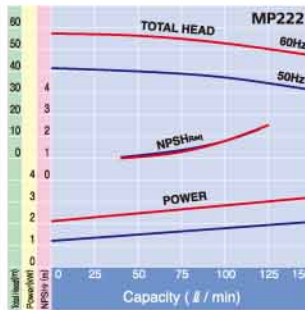
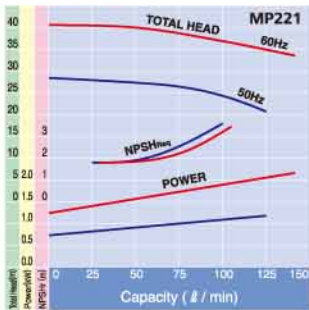
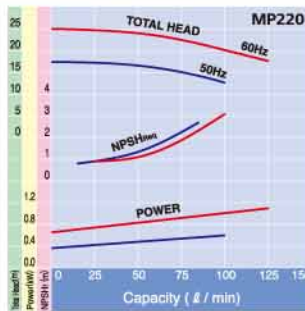
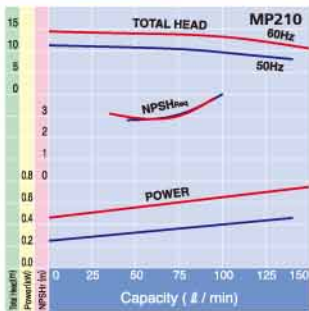
Selection charts



Performance curves for MH and ML are same as MP.

Performance curves

(60Hz 2P-3,600r/min, 50Hz 2P-3,000r/min)



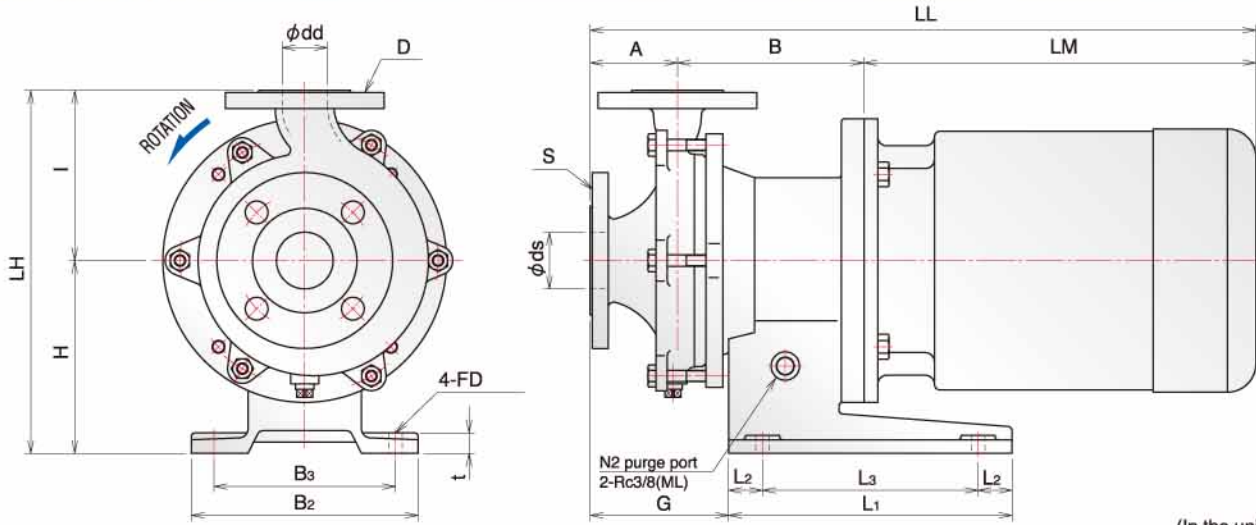
■ : Total Head(m) ■ : Power(kW) ■ : NPSHreq(m)

Specifications

	MP	MH	ML
Frequency	50Hz		60Hz
Max. total head	54m		68m
Max. capacity	650 l/min		700 l/min
Max. temperature applicable	150°C	280°C	150°C
Min. temperature applicable	-30°C	RT	-80°C
Max. liquid specific gravity	2		
Max. liquid viscosity	300mPa·s(cP)		
Design pressure	1.0MPaG		
Bore(suction x discharge)	25x20mm~80x40mm		
Flange standard	JIS 10K RF / ASME 150LB RF		
Type of impeller	Closed		
Motor output rating	0.75kW~7.5kW(2P)		
Pump material	SCS14(SUS316), ALLOY20, Hastelloy C equivalent		
Liquid-immersed bearings	SIC-D		

Pump material of MP423, MP543 and MP842 is only SCS14(SUS316).

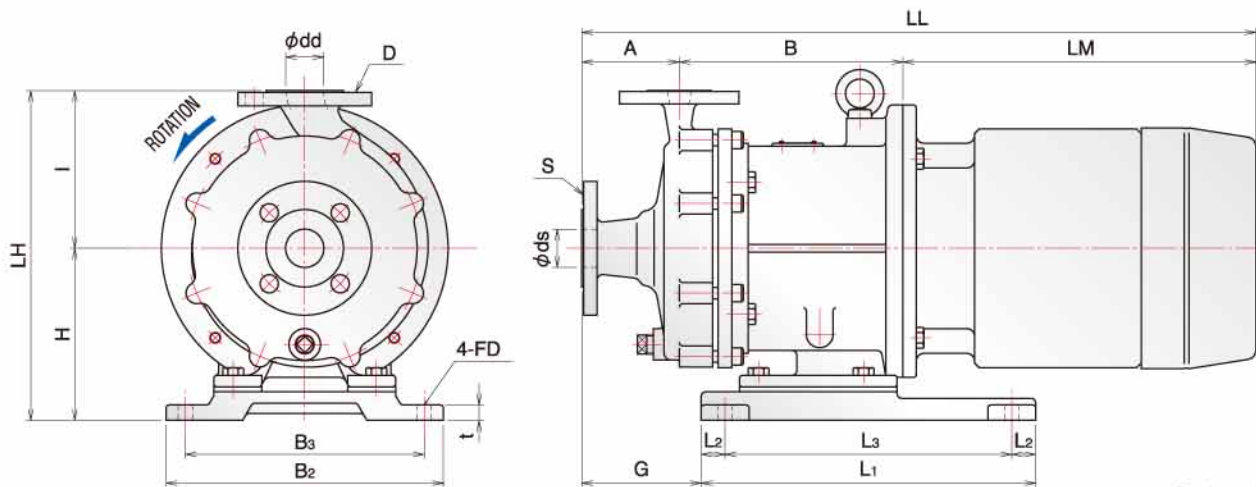
Outline dimension



(In the unit of mm)

PUMP SIZE	MOTOR		BORE				PUMP & MOTOR							BASE PLATE						WEIGHT APPROX(kg)				
	FRAME SIZE	OUTPUT (kW)	SUCT		DISCH		A	B	H	I	LH	LM	LL	G	L ₁	L ₂	L ₃	B ₂	B ₃	t	FD	PUMP	MOTOR	TOTAL
			ds	S	ds	D																		
MP210	80M	0.75	25	20	20	20	75	170	110	105	215	233	478	125	180	30	120	160	130	12	φ12	22	12.5	34.5
	90L	1.5					275	520	22	16.5	38.5													
MP220	80M	0.75	25	20	20	60	170	110	120	230	233	463	110	180	30	120	160	130	12	φ12	23	12.5	35.5	
	90L	1.5																			(170)	(290)	275	505
MP221	90L	1.5, 2.2	25	20	20	65	165	170	130	300	275	505	110	250	30	190	200	160	18	φ12	27	18	45	
	(100L)112M	(2.2),3.7																			326	566	30	37
MP222	90L	1.5, 2.2	25	20	20	65	165	170	140	310	275	505	110	250	30	190	200	160	18	φ12	29	18	47	
	(100L)112M	(2.2),3.7																			326	566	33	37
MP420	80M	0.75	40	25	25	75	170	170	135	305	233	478	125	250	30	190	200	160	18	φ12	29	12.5	41.5	
	90L	1.5, 2.2																			275	520	29	18
MP421	90L	1.5, 2.2	40	25	25	75	170	170	135	305	275	520	125	250	30	190	200	160	18	φ12	30	18	48	
	(100L)112M	(2.2),3.7																			326	581	34	37
MP541	90L	2.2	50	40	40	80	170	170	140	310	275	525	130	250	30	190	200	160	18	φ12	31	18	49	
	(100L)112M	(2.2),3.7																			326	586	35	37
MP542	90L	2.2	50	40	40	65	165	170	150	320	275	505	110	250	30	190	200	160	18	φ12	34	18	52	
	(100L)112M	(2.2),3.7																			326	566	38	37

LM,LL dimensions and motor weight may vary depending on motor used. # Figures in brackets are for MH220 and ML220.



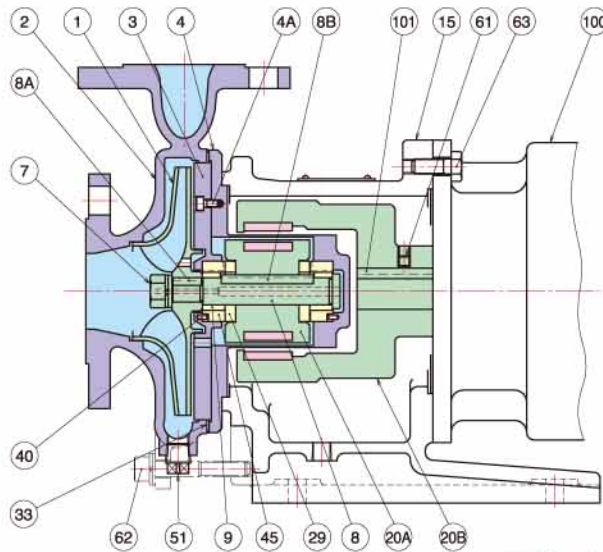
(In the unit of mm)

PUMP SIZE	MOTOR		BORE				PUMP & MOTOR							BASE PLATE						WEIGHT APPROX(kg)				
	FRAME SIZE	OUTPUT (kW)	SUCT		DISCH		A	B	H	I	LH	LM	LL	G	L ₁	L ₂	L ₃	B ₂	B ₃	t	FD	PUMP	MOTOR	TOTAL
			ds	S	ds	D																		
MP423	132S	5.5, 7.5	40	25	25	102	234	180	165	345	393	729	125	350	25	300	290	250	18	φ15	63	61	124	
MP543	132S	5.5, 7.5	50	40	40	102	234	180	165	345	393	729	125	350	25	300	290	250	18	φ15	65	61	126	
MP842	132S	5.5, 7.5	80	40	40	102	234	180	165	345	393	729	125	350	25	300	290	250	18	φ15	67	61	128	

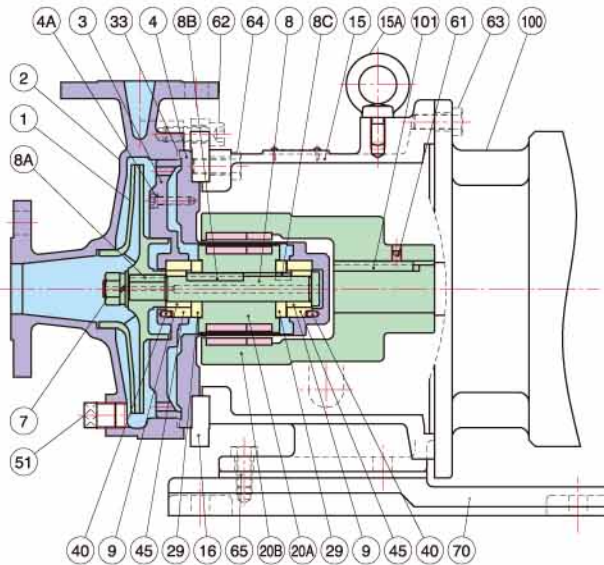
LM,LL dimensions and motor weight may vary depending on motor used. # For MP only.



Construction and materials



MP423, MP543, MP842



MARK	NAME OF PART	MAT'L	No. REQ'D
101	COUPLING KEY(M)	S45C	1
100	MOTOR	-	1
63	HEXAGON HEAD BOLT	SUS304	4 ^S
62	HEXAGON SOCKET HEAD CAP SCREW WITH WASHER	SUS304	6 ^S
61	SET SCREW	SCM435	1
51	PLUG	SUS	1
45	BUSHING	SIC	2
40	PIN	SUS	2
33	SHEET GASKET	PTFE	1
29	THRUST RING	SIC	2
20B	MAGNET	RARE EARTH	1 ^S
	MAGNET COUPLING(M)	FCD	1
20A	MAGNET	RARE EARTH	1 ^S
	MAGNET COUPLING(P)	SUS	1
15	FRAME ADAPTER	FC200	1
9	SLEEVE	SIC-D	2
8B	COUPLING KEY(P)	SUS	1
8A	IMPELLER KEY	SUS	1
8	SHAFT	SUS	1
7	IMPELLER NUT WITH WASHER	SUS	1 ^S
4A	HEXAGON SOCKET HEAD CAP SCREW	SUS	4
4	REAR CASING	SUS	1
3	CASING COVER	SUS	1
2	CASING	SCS	1
1	IMPELLER	SCS	1

MARK	NAME OF PART	MAT'L	No. REQ'D
101	COUPLING KEY(M)	S45C	1
100	MOTOR	-	1
70	BASE	FC200	1
65	HEXAGON HEAD BOLT	SUS304	4
64	HEXAGON HEAD BOLT	SUS304	4
63	HEXAGON HEAD BOLT	SUS304	4
62	HEXAGON SOCKET HEAD CAP SCREW	SUS304	8 ^S
61	SET SCREW	SCM435	1
51	PLUG	SUS	1
45	BUSHING	SIC	2
40	PIN	SUS	2
33	SHEET GASKET	PTFE	1
29	THRUST RING	SIC	2
20B	MAGNET	RARE EARTH	1 ^S
	MAGNET COUPLING(M)	SS400	1
20A	MAGNET	RARE EARTH	1 ^S
	MAGNET COUPLING(P)	SUS	1
16	FLANGE	SUS304	1
15A	EYE BOLT	SF440	1
15	FRAME ADAPTER	FC200	1
9	SLEEVE	SIC-D	2
8C	SLEEVE KEY	SUS	1
8B	COUPLING KEY	SUS	1
8A	IMPELLER KEY	SUS	1
8	SHAFT	SUS	1
7	IMPELLER NUT	SUS	1 ^S
4A	HEXAGON SOCKET HEAD CAP SCREW	SUS	4
4	REAR CASING	SUS	1
3	CASING COVER	SUS	1
2	CASING	SCS	1
1	IMPELLER	SCS	1

Pump material of MP423, MP543 and MP842 is only SCS14(SUS316).

Examples of applicable liquid

Acrylic acid	Chlorosulfonic acid	Butadiene
Acetaldehyde	Hot oil, hot water	Fluorinert
Acetone	Acetic acid	Freon
Ammoniacal liquor	Phosphorus trichloride	Hexane
Isopropyl alcohol	Ethylene oxide	Hexamethylene Diisocyanate
Ethanol	Cyclohexane	Benzene
Ethylene glycol	Pure water	Formalin
Oxy phosphorus chloride	Styrene	Maleic acid
Octanol	Hydrocarbon	Methanol
Hydrogen peroxide water	Trichloroethylene	Methyl ethyl ketone
Caustic soda	Toluene	Sulfuric acid
Xylene	Kerosene	Various chemicals
Glycine soda	Oleum Fuming sulfuric acid	Various heat medium liquid
Chloroform(TrichloroMethane)	Phenol	Various coolant liquid

Efficiency compared with seal pump (our products)

	Pump performance	Efficiency
MAGPAC MP542	300 ℓ /min x 26m	55%
Mechanical seal pump	3,000 rpm	JIS (A) 53%

Example - Spare parts savings in Jap.Yen (10 to 20 pumps in service)

Mechanical seal pump	MAGPAC, MP	Difference
Sleeve <50%> @25,000yen x 5sets	Liquid- immersed bearings <10%> @50,000yen x 1set	Store space is cut down to 1/10th
Mechanical <50%> @35,000yen x 5sets		
Total 300,000yen	50,000yen	250,000yen+α