MAGSON MAS pumps – strong, safe, self-priming

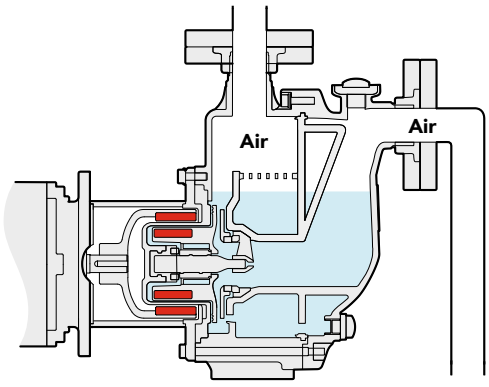
Whenever you have to deliver highly aggressive fluids out of tanks from above, self-priming pumps should be your first choice. Using a patented valveless technique, MAGSON MAS pumps feature an excellent priming capacity.

To prevent damage to the environment, most polluting and aggressive fluids are stored in double shell tanks. When delivering fluids out of such tanks, a non-self-priming centrifugal pump would have to be attached at bottom level of the tank. As the risk of leakage there is very high, this would require a lot of safety precautions.

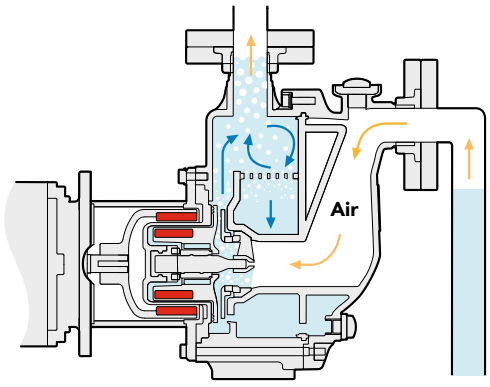
By far the safer and less expensive thing is to use a self-priming magnetically coupled centrifugal pump. This pump also has to prime fluid, but due to its integrated priming tank takes in and delivers the fluid from the bottom up.

Being suitable to run dry for a limited period of time, MAGSON MAS pumps are also able to drain a tank down to the last drop.

Operating principle of MAGSON MAS pumps



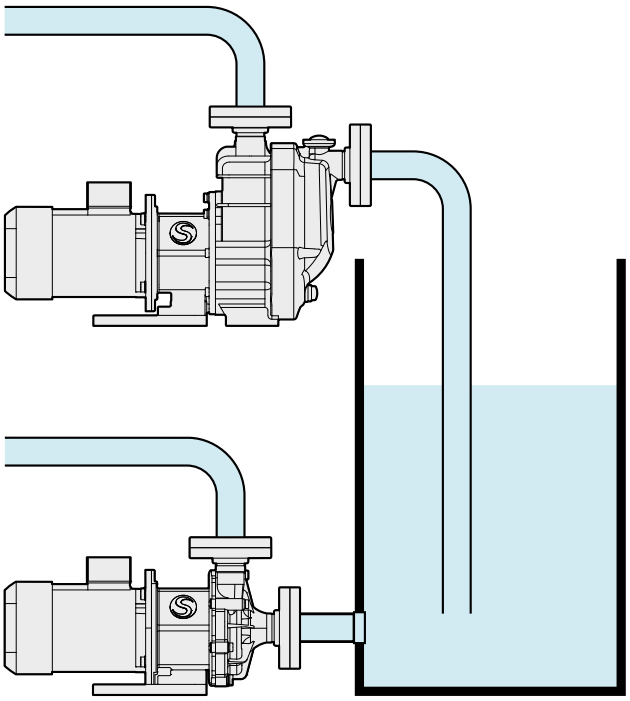
Before starting the pump
The housing with integrated priming tank has several chambers. Before starting the MAGSON MAS pump for the first time, fill it up with fluid.



Priming
The impeller and priming chambers' design ensures that air is evacuated and a two-phase mixture (of fluid and air) is delivered without causing any damage. There is always enough fluid in the bottom chamber to supply both the impeller and the bearing with fluid.

→ Delivery flow → Air

Installation of an MAS pump in comparison to a non-self-priming MA pump

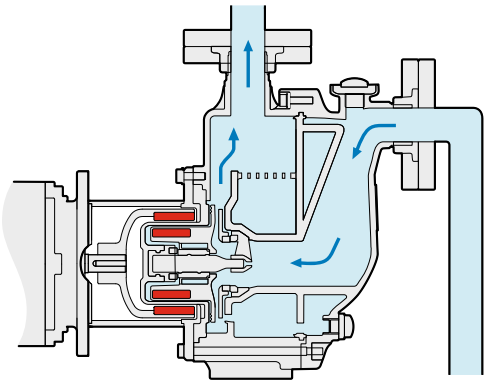


MAGSON MAS pumps (above) prime fluid from the bottom up whereas non-self-priming MA pumps only prime horizontally.

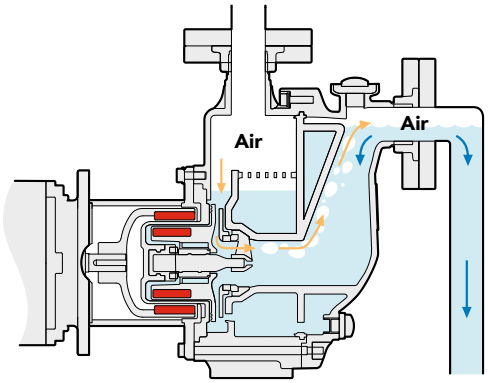
Advantages of MAS pumps are:

- excellent priming capacity of 5 m.WC in less than 2 minutes
- capacity range of up to 27 m.WC and 470 l/min
- no additional priming tank required
- being suitable to run dry for some time, they can also be used for total drainage

For all advantages of MAGSON pumps see page 9



Delivery
When delivering, MAGSON MAS pumps like MA pumps operate as magnetically coupled centrifugal pumps without shaft seal in an equally reliable and efficient way.



Stop
When the pump stops, the fluid in the suction line flows back into the tank. The special layout of the internal chambers makes sure that there is always enough residual fluid in the pump housing and the priming tank is not emptied totally. This patented technique does not require any valves.

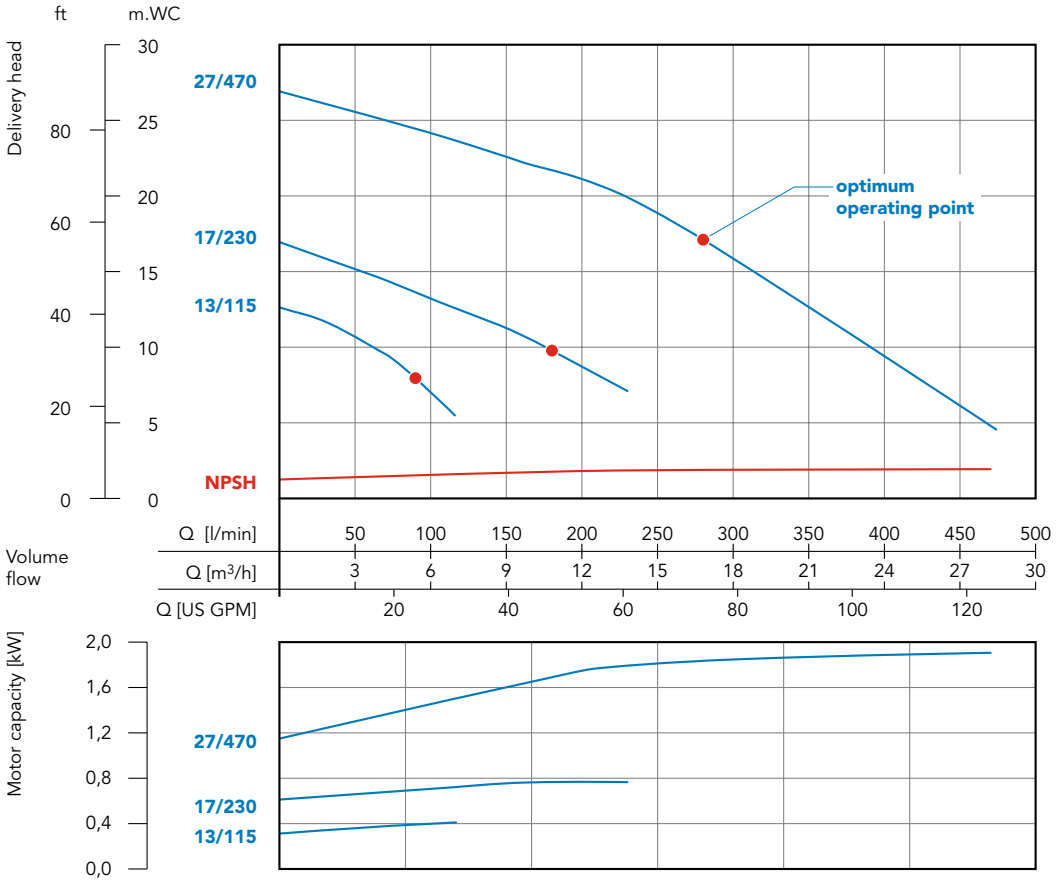
MAS types 4, 5 and 6

Fig.: MAS pump type 5

- self-priming
- without shaft seal
- streamlined spiral housing made of PP or ETFE
- volume flow of up to 470 l/min
- delivery head of up to 27 m.WC
- back pull-out

For all advantages of MAGSON pumps see page 9.

Characteristic curves



Determined with water of 20 °C; measured values ± 10 %

Technical data MAS	Type 4	Type 5		Type 6		
Size	**13/115**	**17/230**		**27/470**		
Material*	PP (glass-fibre reinforced) / ETFE (carbon-fibre reinforced)					
Max. delivery head in [m.WC] at 50 Hz	13	17		27		
Max. volume flow in [l/min] at 50 Hz	115	230		470		
Max. suction head for water of 20°C in [m.WC]	5					
Max. density in [g/cm³] at 50 Hz**	1.8	1	1.4	1.15	1.6	2
Motor capacity in [kW]	0.75	0.75	1.1	2.2	3	4
Current rating (400 V, 50 Hz) in [A]	1.56	1.56	2.25	2.0	5.6	7.3
Rated speed in [rpm] at 50 Hz / 60 Hz	3000/3600					
Suction port	DN 25	DN 40		DN 50		
Discharge port	DN 25	DN 40		DN 50		
Voltage in [V]	230/400 V three-phase AC					
Protection class	IP 55					
Max. flow velocity in [m/s]	suction side = 1 / discharge side = 3					
Max. temperature for PP / ETFE in [°C]	70/60					
Max. system pressure for PP / ETFE at 20°C in [bar]	2	2.2		4	5.2 / 4.4	

* Material used for housing, impeller unit and rear casing: (sheath of inner magnet made of PP without fibre reinforcement)

** approx. value at max. volume flow (higher density possible when flow rate is reduced)

Dimensions in [mm]	Type 4	Type 5		Type 6		
Size	**13/115**	**17/230**		**27/470**		
Dimension a in [mm]	130	130		208	230	
Dimension c in [mm]	130	130		200	261	
Dimension d in [mm]	255	276		296		
Dimension e in [mm]	70	84		93		
Dimension f in [mm]	167	190		206		
Dimension g in [mm]	275	305		309		
Dimension i in [mm]	Ø12	Ø12		Ø14×36		
Dimension J in [mm]	196	228		248		
Dimension H in [mm]	325	360		389		
Dimension K in [mm]	18	18		18	20	
Dimension L in [mm]	582	612	647	718	772	755
Dimension w in [mm]	160	160		260		

Motor dimensions may differ according to manufacture.

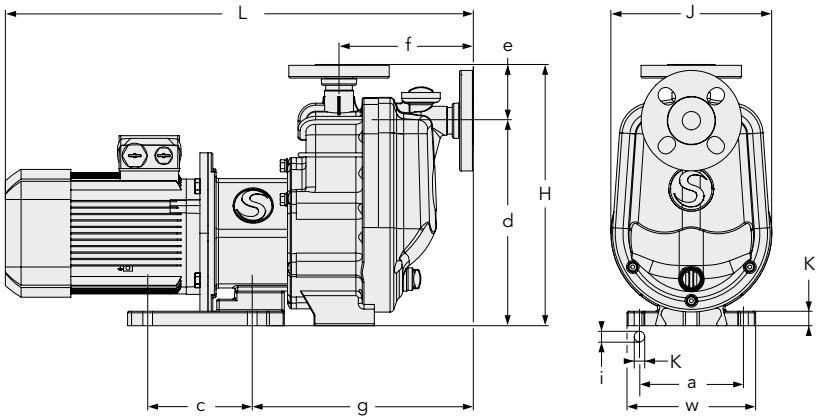


Fig.: MA pump type 6 with motor of up to 2.2 kW

Materials
You will find all materials available and their characteristics on page 8.

Accessories
such as frequency converters see page 11, thread adapter see page 10 and additional accessories see page 28.