

# MAGSON

Magnetically coupled self-priming centrifugal pumps  
MAS types 4, 5 und 6



# 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.

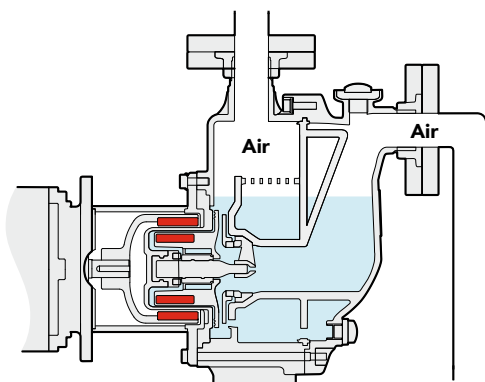


To prevent damage to the environment, most polluting and aggressive fluids are stored in double shell tanks. When delivering fluids out of such tanks, a non-self-priming centrifugal pump would have to be attached at bottom level of the tank. As the risk of leakage there is very high, this would require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

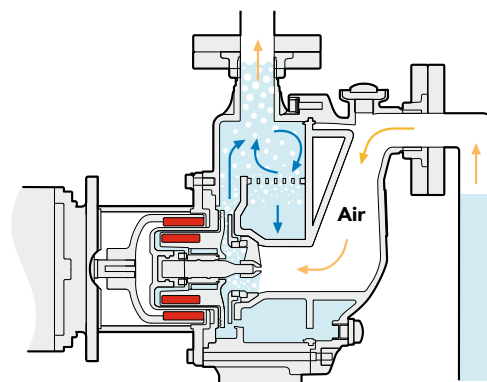
Being suitable to run dry for a limited period of time, MAGSON MAS pumps are also able to drain a tank down to the last drop.

## 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.

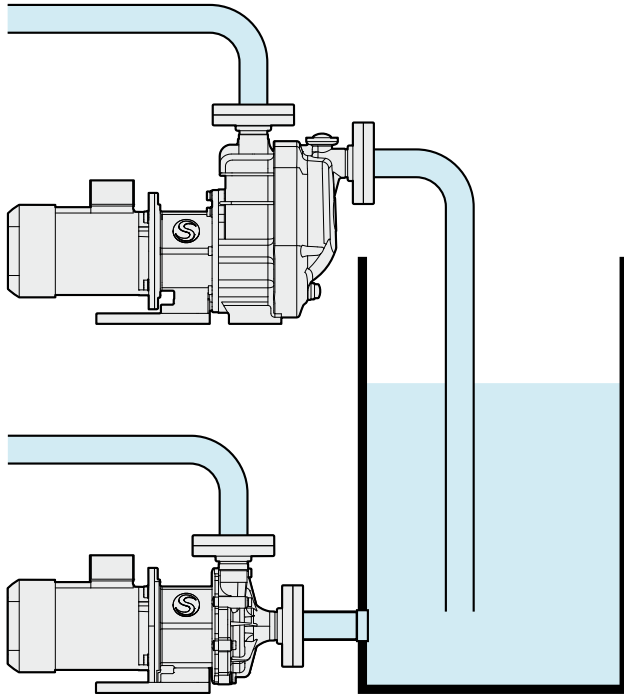


### Priming

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



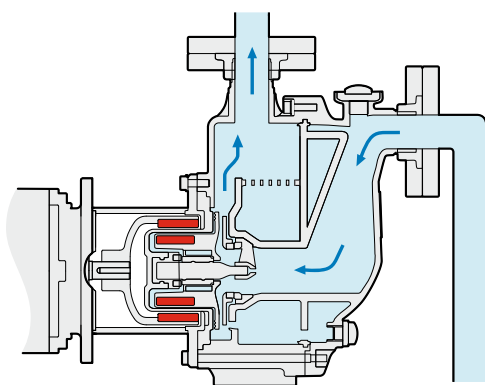
#### Advantages of MAS pumps are:

- 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



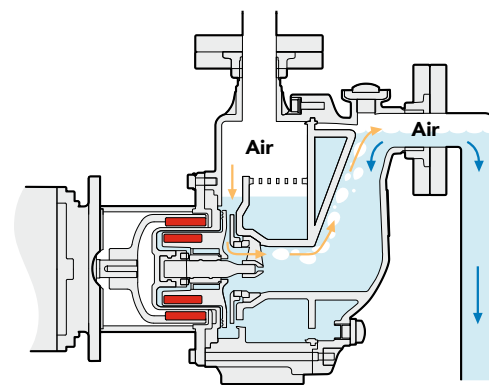
For all advantages of MAGSON pumps see page 9 within main catalogue

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



#### 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



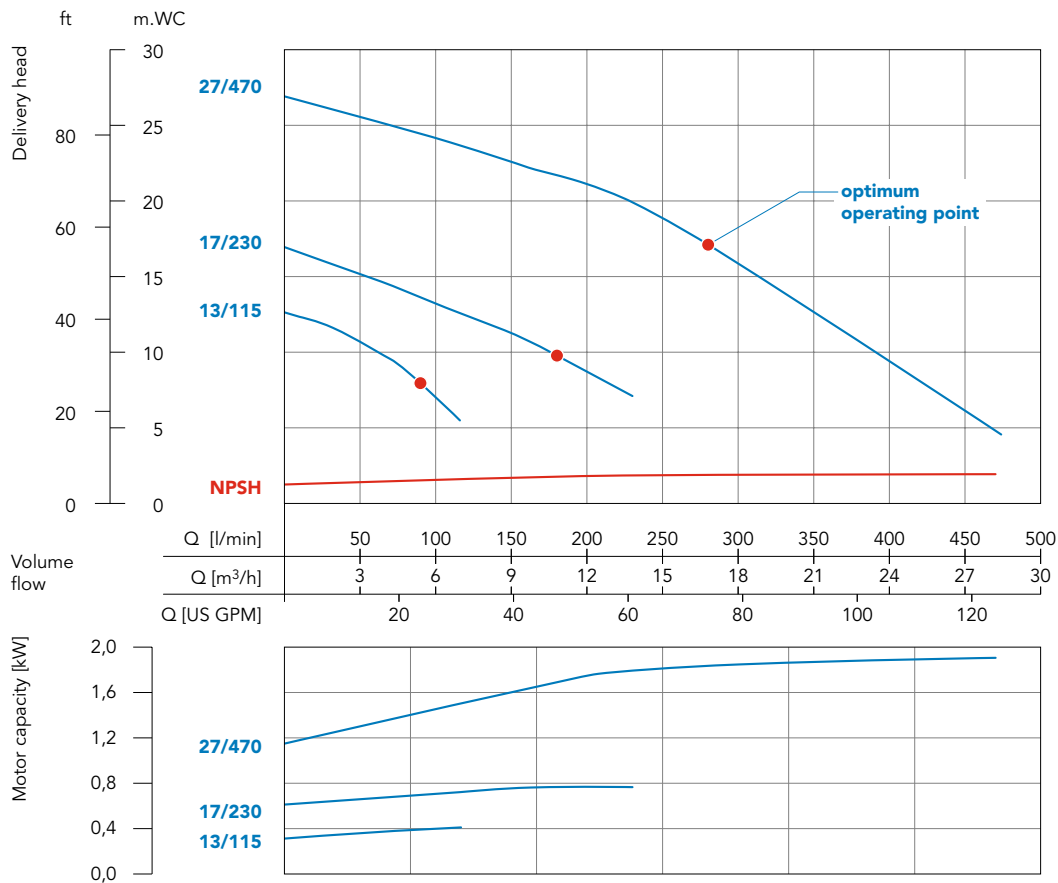
- self-priming
- without shaft seal
- streamlined spiral housing made of PP or ETFE
- volume flow of up to 470 l/min
- delivery head of up to 27 m.WC
- back pull-out

Fig.: MAS pump type 5



For all advantages of MAGSON pumps see main catalogue.

## Characteristic curves



Technical data	MAS type 4	MAS type 5		MAS 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 50Hz	13	17		27		
Max. volume flow in [l/min] at 50Hz	115	230		470		
Max. suction head for water of 20°C in [m.WC]	5					
Max. density in [g/cm³] at 50Hz**	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 (400V, 50Hz) in [A]	1.56	1.56	2.25	2.0	5.6	7.3
Rated speed in [rpm] at 50Hz/60Hz	3000/3600					
Suction port	DN 25 (G 1 1/2")	DN 40 (G 2 1/4")		DN 50 (G 2 3/4")		
Discharge port	DN 25 (G 1 1/2")	DN 40 (G 2 1/4")		DN 50 (G 2 3/4")		
Voltage in [V]	230/400V three-phase AC					
Protection class	IP 55					
Max. flow velocity in [m/s]	suction side = 1 / discharge side = 3					
Approx. weight for PP/ETFE in [kg]	24	26	29	42	54	62
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]

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.



### Thread adapter

All details at page 6.

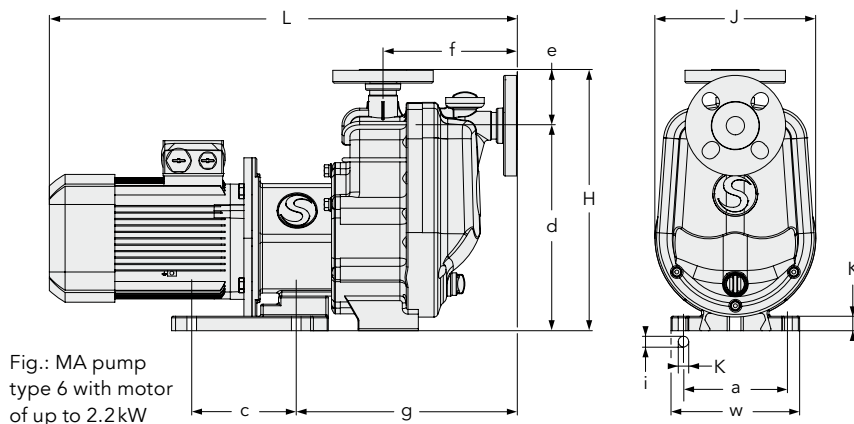


Fig.: MA pump type 6 with motor of up to 2.2kW

# For all types of connections

No matter which type of connection you have – MAGSON is the perfect solution, even in that case.

Conventional centrifugal pumps usually follow a connection form. Either you have flange connections acc. to DIN (or ANSI) or a thread connection (internal or external thread). You have then to adapt your system to the pump, order the pump according to your requirements (usually with longer delivery time and higher costs than standard version) or create a complex transfer piping between the system and the pump. MAGSON also offers the ideal solution for all

## MA with loose flange: perfect connection at flanges

No matter how the drilling pattern of the pipeline comes to rest after completion, thanks to the loose flange on the MAGSON you can connect directly. Simply turn the loose flange on the pump until it matches the pipe and you can screw it down.

Moreover, it does not matter if your pipeline is designed according to DIN or ANSI. MAGSON always fits!

## MA with thread adapter: the universal

MAGSON magnetic centrifugal pumps go a step further; also here: with the standard supplied threaded adapters, you can adapt pumps to the standardized coupling nuts in standard dimensions. We also ensure that the pipeline has a sufficiently large diameter in order to optimize the flow conditions around the pump. If necessary, we also provide you with an adapter tailored to your needs.

## MA with hose connections: a round thing

And if it has to be flexible there is also the hose connection. Thus all types of connections are available, which makes the connection to your system as simple as possible.



All details described at page 6.



## MAS with loose flange

Loose flanges are preassembled.



## MAS with thread adapter

Threaded adapters are supplied as standard and can be mounted on request

# Accessories to MAGSON pumps

## Motor accessories

- ON/OFF switch with 2.5m cable and plug (230V AC only)
- 5m three-phase connection cable with CEE plug of 5 × 16 A, fully assembled
- Frequency converter of IP class 65, mounted directly to the motor or for wall mounting

## Slip-on flanges

to screw onto threaded ports including O-rings\*

Type	Nominal diameter of suction port	Nominal diameter of discharge port	Made of PP	Made of ETFE
MA types 2/3, MAS type 4	DN 25 PN 10	DN 25 PN 10	•	•
MA types 4/5, MAS type 5	DN 40 PN 10	DN 40 PN 10	•	•
MA type 6	DN 50 PN 10	DN 40 PN 10	•	•
MAS type 6	DN 50 PN 10	DN 50 PN 10	•	•

\*All MAGSON pumps of types 4, 5 and 6 come with slip-on flanges and loose thread adapters additionally enclosed as standard features.

## Thread adapters

to screw onto threaded ports including O-rings connecting with insert fitting and spigot nut\*

Type	Nominal diameter of suction port	Nominal diameter of discharge port	Made of PP	Made of PVDF
MA types 2/3, MAS type 4	1 1/2" thread	1 1/2" thread	•	•
MA types 4/5, MAS type 5	2 1/4" thread	2 1/4" thread	•	•
MA type 6	2 3/4" thread	2 1/4" thread	•	•
MAS type 6	2 3/4" thread	2 3/4" thread	•	•

\*All MAGSON pumps of types 2 and 3 come with screwed-on thread adapters as standard features.

## Hose connections

Three-piece hose connections with spigot nut and hose nipple.

Connection	Hose nipple	To suction port	To discharge port
1 1/2" thread	1"	MA types 2/3, MAS type 4	MA types 2/3, MAS type 4
	1 1/4"		
	1 1/2"		
2 1/4" thread	1 1/2"	MA types 4/5, MAS type 5	MA types 4/5/6
	2"		

Also available are port seals, shut-off and check valves etc. suitable to any MAGSON pump.

Our product specialists will be glad to help you!

- Standard (off the shelf)

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