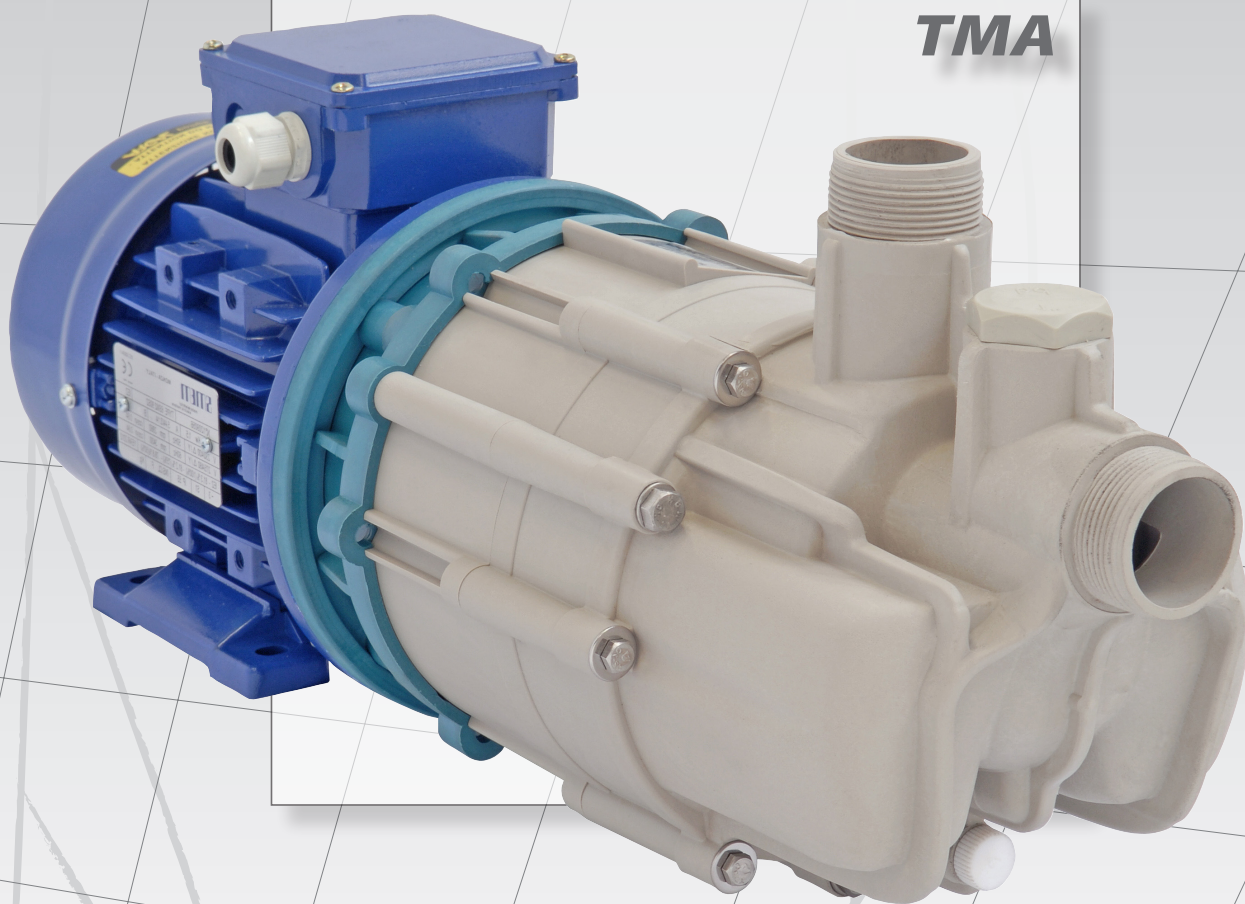


ARGAL

CHEMICAL PUMPS

Alifter range



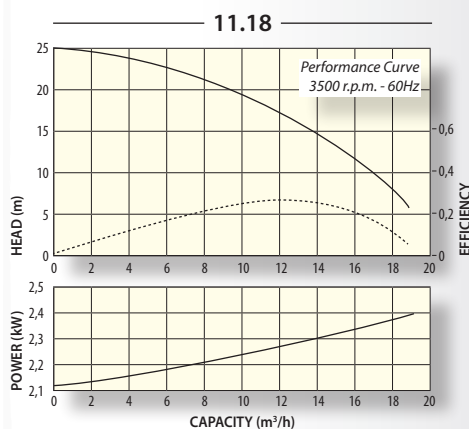
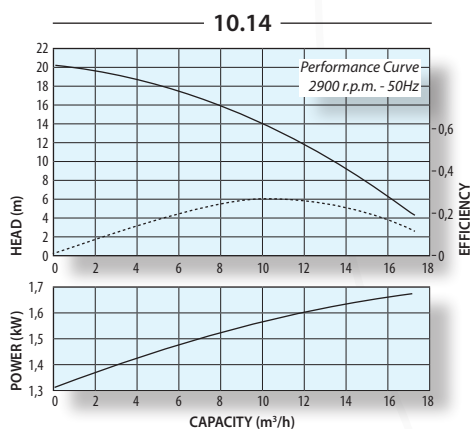
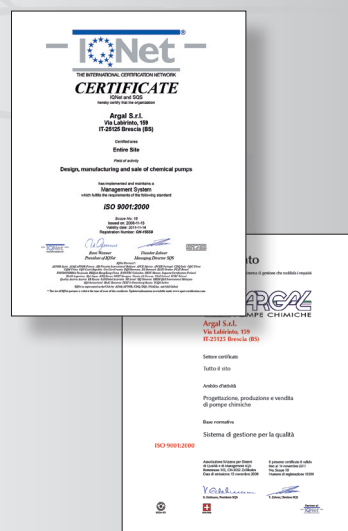
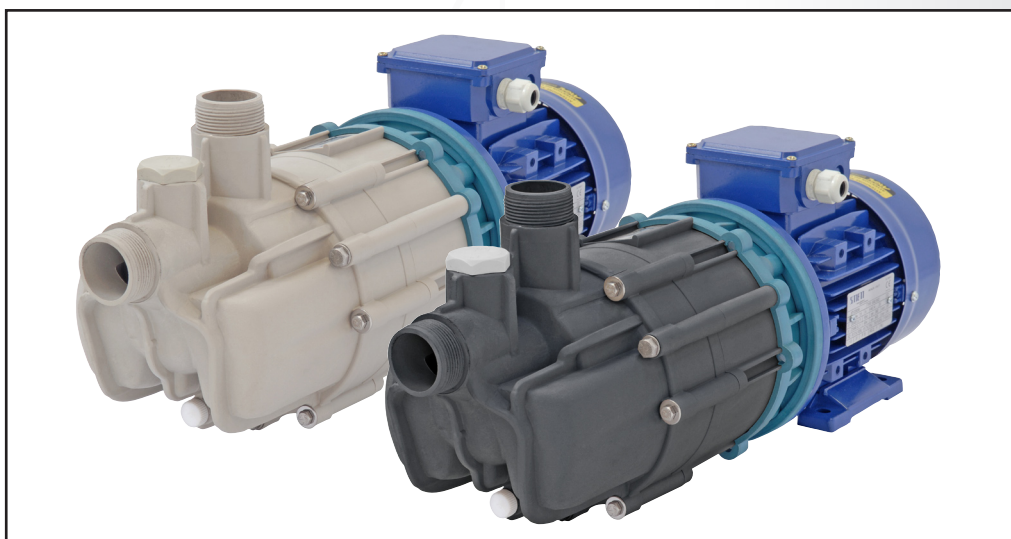
TMA

***Self-priming magnetical driven pump
in thermoplastic materials***

ALIFTER - TMA G2

It is an innovative pump designed by the R&D department of Argal with a pending international patent. It is a magnetic drive, self-priming, biphasic turbo radial pump and is manufactured either in polyolefin thermoplastic polymer (PP) or fluorinated (E-CTFE).. Thanks to its construction the TMA pump develops higher suction head and shorter priming time than self priming centrifugal pumps;

its biphasic impeller primes fluids with high density, viscosity and vapour such as sulphuric 98%, hydrochloric 33%, nitric, phosphoric acid, sodium hypochlorite, caustic soda, ferric chlorite provided the negative suction head is up to 4 metres. The high torque magnetic joint and the option to adopt electric motors of increasing rated power allows this device to pump a broad range of chemical liquids of variable specific weight without compromising its typical hydraulic performances.



MAIN FEATURE

- Choice of material chemically resistant to all corrosive liquid.
- Ability to prime from an empty suction duct.
- Fast priming
- Magnetic core embedded in the biphasic impeller
- Max. lift = -6 m
- Max. allowed specific weight up to 2 kg/dm³
- Minimum NPSHa = 3 m (abs)
- Standard motors IEC or NEMA.

THE MATERIALS

table 1

VERSION	REINFORCED POLYMERS	MIN. TEMP.	MAX TEMP.	ENVIRONMENT TEMP
WR	GFR/PP	-5°C (23°F)	60°C (140°F)	0÷40°C (14÷104°F)
GF	CFF/E-CTFE	-20°C (-4°F)	90°C (194°F)	-20÷40°C (-4÷104°F)

Note: Maximum inlet pressure: 1,5 bar

THE CONSTRUCTIONS

table 2

VERSION	WR			GF		
	R1	X1	N1	R2	X2	N2
Volute casing	GFR+PP			CFF+E-CTFE		
Rear casing						
Centrifugal impeller						
Guide bushing	CARB. HD	SiC	GFR+PTFE	CARB. HD	SiC	GFR+PTFE
Shaft	CER			SiC		
Thrust bush						
OR gasket	FKM (1)			FKM (1) (2)		
Screws	Stainless steel					

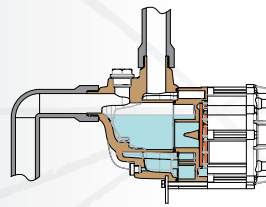
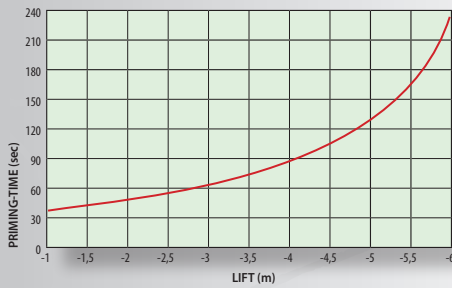
Upon request: (1) EPDM and (2) FFKM



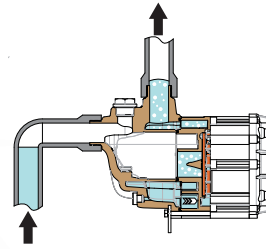
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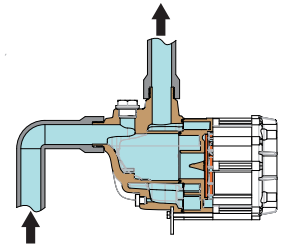
PRIMING TIME WITH WATER



Stopping phase: a small quantity of liquid is trapped into the pump to enable the next starting.



Priming phase: the impeller gives a specific circulation of air-liquid mixture moving air from the suction pipe to the discharge side in the atmosphere.



Pumping phase: after the air is totally removed from the suction side, the pipe is flooded by the liquid and the pumping phase can start.

ASSESS OF MAXIMUM LIFT

Vapour Pressure

$P_v [m_{H_2O}]$	0,25	0,75	1,25	2	2,5	3	4	5
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Lift

$H_s [m_{H_2O}]$	p.s. = max. value of specific weight of the fluid $[Kg/dm^3]$							
-1	2	2	2	2	2	2	2	2
-1,5	2	2	2	2	2	2	2	1,6
-2	2	2	2	2	2	2	1,6	1,2
-2,5	2	2	2	2	1,8	1,6	1,2	
-3	2	2	2	1,7	1,5	1,3	1	
-3,5	1,9	1,8	1,6	1,4	1,2	1,1		
-4	1,7	1,5	1,4	1,2	1,1			
-4,5	1,4	1,3	1,2	1				
-5	1,3	1,2	1,1					
-5,5	1,1	1,1	1					
-6	1							

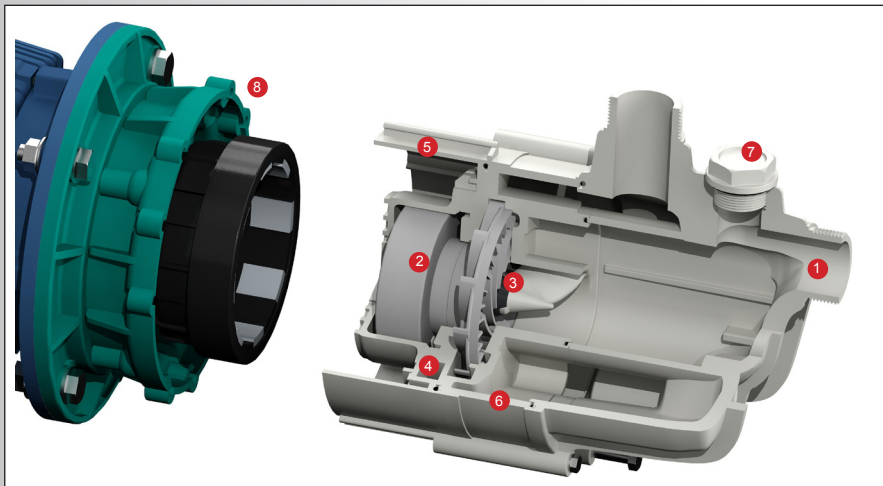
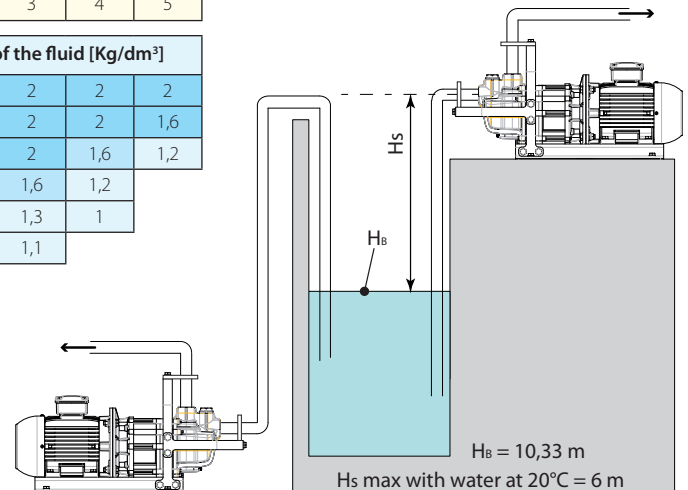
Medium	$P_v (^{\circ})$	p.s. (^{\circ})
HF - 50 ~ 40%	0,41	1,15
HCl - 37%	2	1,17
NaOCl	0,2	1,26
HNO₃ - 70%	0,65	1,41
NaOH - 50%	0,02	1,52
H ₂ SO ₄ - 98%	1x10 ⁻⁴	1,84

1 $[m_{H_2O}] = 9806 [Pa]$

(¹) ref. to 20°C - 68°F

(²) In table 3 select the P_v e p.s. value $\geq$ respect to the pumped fluid

table 3



- 1 Connections casing
- 2 Impeller
- 3 Thrust bushing
- 4 Central disk
- 5 Rear casing
- 6 Front volute casing
- 7 Filling plug
- 8 Motor parts interchangeable with TMR G2

PUMP IDENTIFICATION LABEL

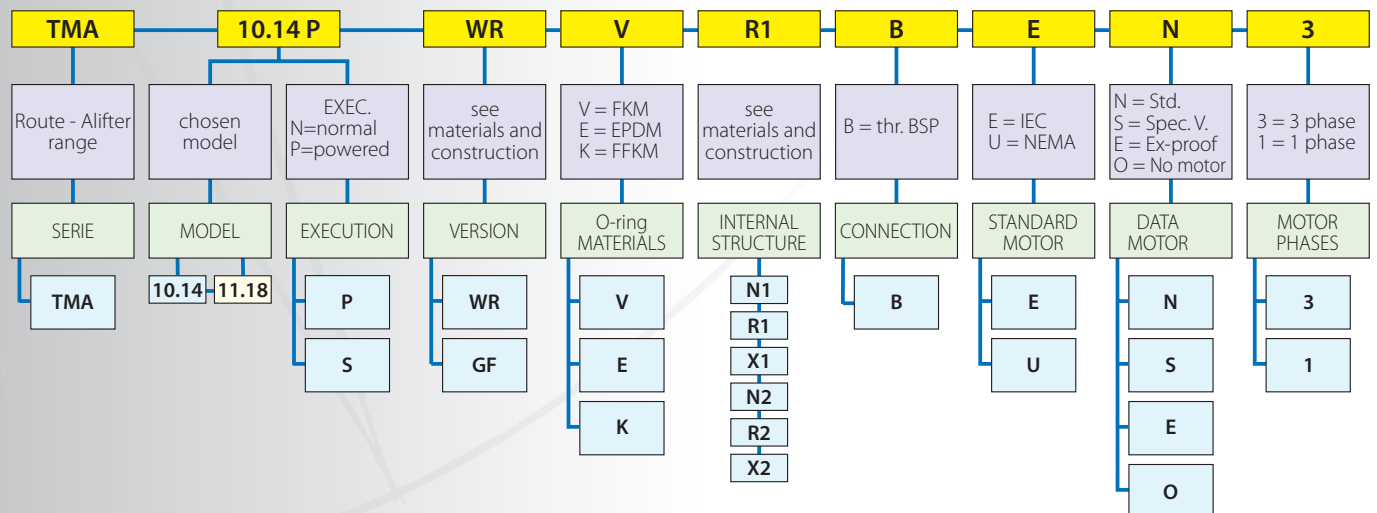


table 4

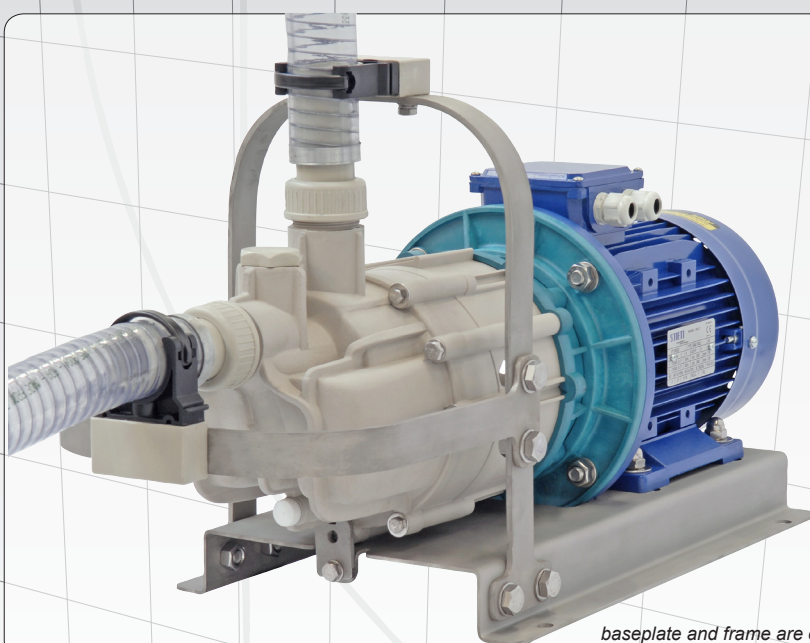
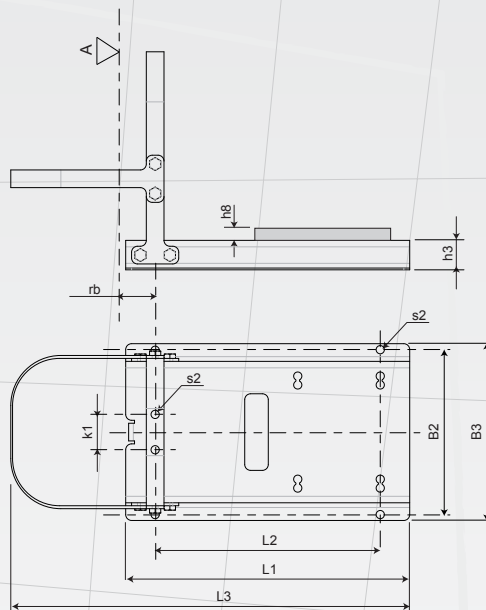
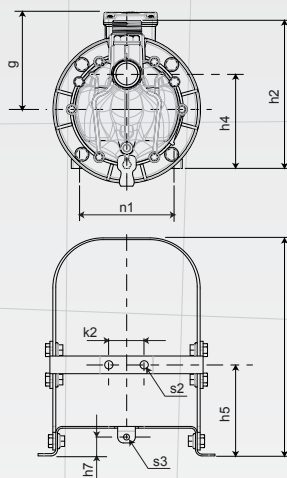
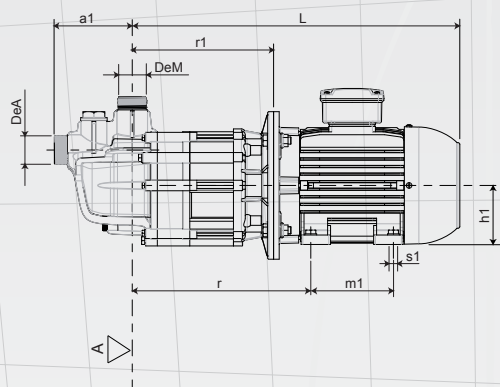
table 5

model		power [kW]	IEC frame	DeA	DeM	a1	h2	h4	L ⁽¹⁾	r	r1	g ⁽¹⁾	h1	m1	n1	s1
10.14	P	2,2	90L	1 1/2"	1 1/2"	132	240	150	510	280,5	224,5	140	90	125	140	10
	S	3	100				250	160	570	302,5	239,5	150	100	140	160	12
11.18	P	3	100	1 1/2"	1 1/2"	132	250	160	570	302,5	239,5	150	100	140	160	12
	S	4	112				262	172	580	309,5		180	112		190	

- (1) can change for different motors builder

table 6

model		power [kW]	IEC frame	rb	B2	B3	L1	L2	L3	h3	h5	h6	h7	h8	k1	k2	s2	s3
10.14	P	2,2	90L	60,5	280	300	482	382	677	50	154,5	370	32	20	60	60	14	10
	S	3	100											10				
11.18	P	3	100	60,5	280	300	482	382	677	50	154,5	370	32	10	60	60	14	10
	S	4	112											0				



baseplate and frame are optional



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