

ELK

TMA G1

SELF-PRIMING CENTRIFUGAL PUMPS

MAG-DRIVEN

MADE OF PP · E-CTFE

ATEX



SINCE 1975

EN



ELK pump made of ECTFE+carbon

BENEFITS

- Start-up with empty pipes
- Fast priming-phase
- Maximum Lift = - 5 m
- Reversible (inlet-outlet)
- Suitable for specific gravity up to 2 kg/dm³
- Suitable for vapour pressure up to 1 m (H₂O @ 45°C)
- Minimum NPSHa (available on the plant) = 3 m (abs)
- Impeller replaceable (dependent from magnets)
- IEC or NEMA standard motors can be installed

ACCESSORIES

- Base made of stainless steel
- Trolley made of stainless steel (without electric device)
- Trolley made of stainless steel (with electric device)
- Check valve + foot strainer made of PP or PVDF
- Drum pipe (m. 1,2) with check valve and foot strainer made of PP or PVDF
- Dispenser nozzle made of PP or PVDF

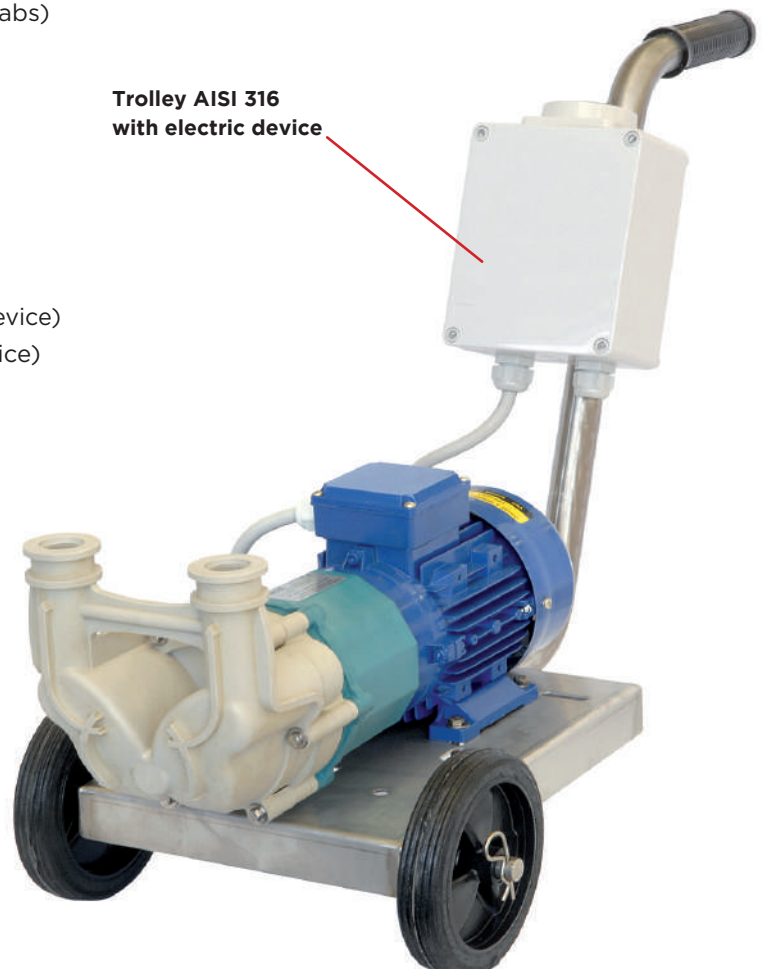
This peripheral pump is a product between the displacement and the centrifugal pump, in which the medium is pumped in a peripheral channel.

It can operate with inlet and outlet reversible by reversing the direction of motor rotation and are adequate to suck up chemical liquids with high specific gravity and/or high vapour tension.

PERFORMANCE

Strong magnetic coupling made up of rare-earth materials (Neodimium Iron Boron) and “N” (standard), “P” (powered) or “S” (strong-powered) versions allow to pump, also at maximum flow, liquids with 1.05 - 1.35 - 1.8 specific gravity respectively.

R-N-X: three internal configuration of constructive materials for many applications: from clean water to waste and slightly abrasive liquids, strong alkali or salts such as sodium hypochlorite, and acids such as chromic, nitric, sulphuric, etc..



Trolley AISI 316 with electric device

MOTORS SPECIFICATIONS

| Model | | Power (kW) | IEC frame | Phase | Voltage | Hz | Protection |
|-------|---|------------|-----------|-------------|---------------------------|----|------------|
| 01.16 | N | 0.55 | 71 | 3 - 1 | 400 ± 5% - 220 ± 5% | 50 | IP 55 |
| | P | 0.75 | 80 | | | | |
| | S | 1.1 | 80 | | | | |
| 01.21 | P | 0.75 | 80 | 3 - 1 | 460 ± 5% - 230 ± 5% | 60 | IP 55 |
| | S | 1.1 | 80 | | | | |

CONNECTIONS

| Model | DN | DeA | DeM | ISO | | ANSI | | JIS | |
|-------|----|--------|--------|-----|--------|------|--------|-----|--------|
| | | | | k | d x z | k | d x z | k | d x z |
| 01.16 | 20 | 3/4" f | 3/4" f | 75 | 14 x 4 | 70 | 16 x 4 | 75 | 15 x 4 |
| 01.21 | 20 | 3/4" f | 3/4" f | 75 | 14 x 4 | 70 | 16 x 4 | 75 | 15 x 4 |

MATERIALS

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

Upon request:(1)EPDM and (2) FFKM - * Compliant to ATEX 94/9/EC regulations

TEMPERATURES

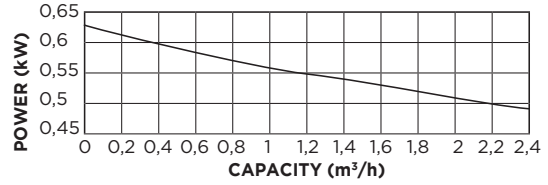
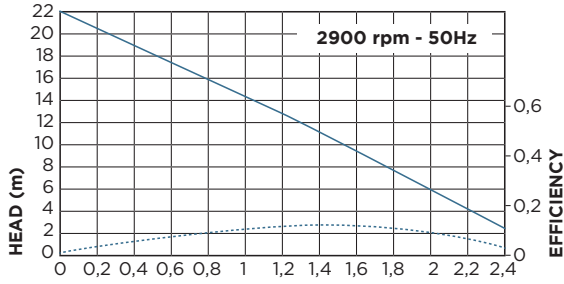
| VERSION | REINFORCED POLYMERS | MIN. TEMP. | MAX. TEMP. | ENVIRONMENT TEMP. |
|---------|---------------------|--------------|---------------|---------------------|
| WR | GFR/PP | -5°C (23°F) | 80°C (176°F) | 0-40°C (14-104°F) |
| GF | CFF/E-CTFE | -20°C (-4°F) | 100°C (212°F) | -20-40°C (-4-104°F) |
| GX* | | | | |

Note: Maximum inlet pressure: 1,5 bar
(*) Compliant to ATEX 94/9/EC regulations

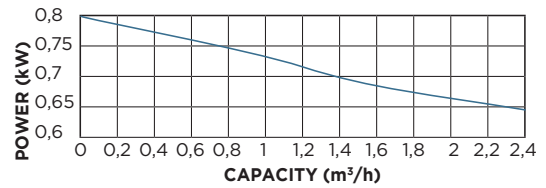
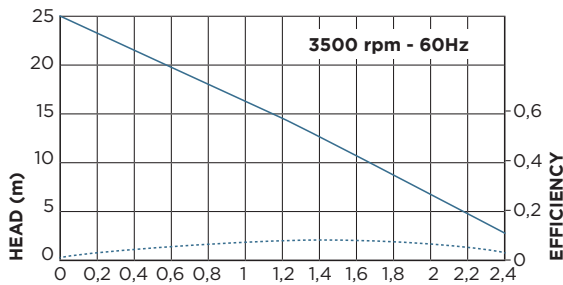
ATEX

RHINO and **ELK** pumps, with specific execution GX (E-CTFE added with conductive carbon fibres and motor E-exd), are approved to operate in explosive atmospheres, classified as per ATEX directive, **Cat. 2 Zone 1 (Series II 2GD IIB at 135 °C)**. Inside of pump should be placed safety device.

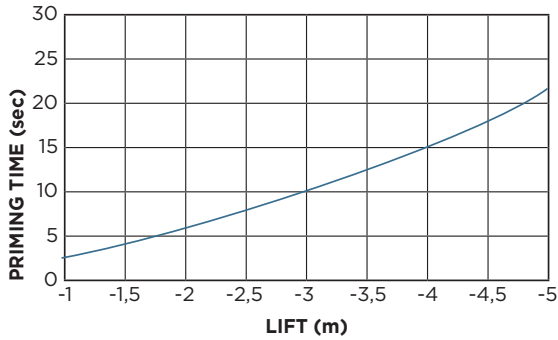
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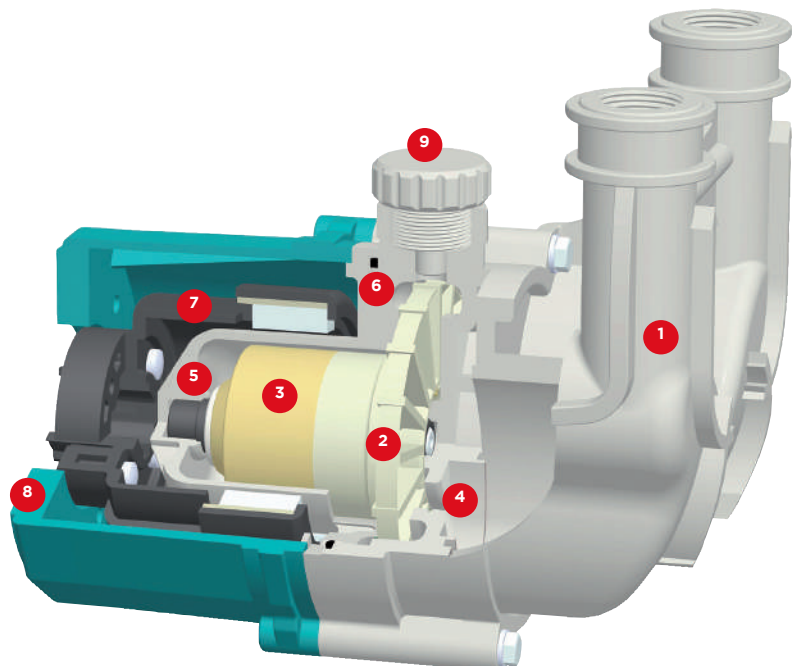


PRIMING TIME WITH WATER

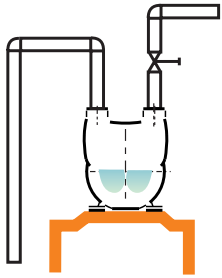


SECTIONED PUMP

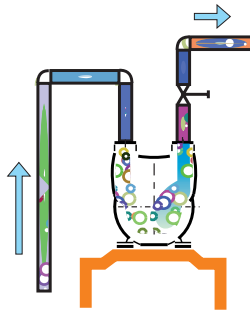
- 1 Pump casing
- 2 Impeller
- 3 Magnetic drive core
- 4 Front casing
- 5 Rear casing
- 6 OR gasket
- 7 Magnetic drive assembly
- 8 Motor support
- 9 Unloading tap



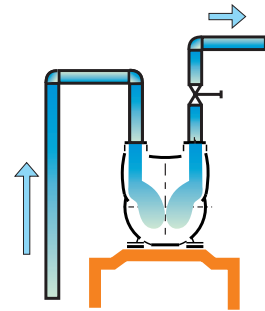
WORKING PRINCIPLE



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.

APPLICATIONS

ELK pumps are ideal for applications requiring a reversible flow and service operations, used in the following sectors:

- Chemical industry (acids, cleaning solutions, inks,...)
- Agriculture industry (hazardous liquids, fertilizers,...)
- Seawater applications
- Water and waste water applications (water charged with residues)



EXAMPLE OF INSTALLATIONS

These two self-priming pumps **ELK G1** are installed in a Power Plant, within an electrochlorination equipment during the cleaning phase.

MAG-DRIVE &
MECH-SEALED
CENTRIFUGAL
PUMPS

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AODD &
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