



ROUTE

TMR • ZMR

CENTRIFUGAL PUMPS
FOR HANDLING CORROSIVE LIQUIDS
MAG-DRIVEN OR MECH-SEALED
PP • E-CTFE
50 Hz - 60Hz



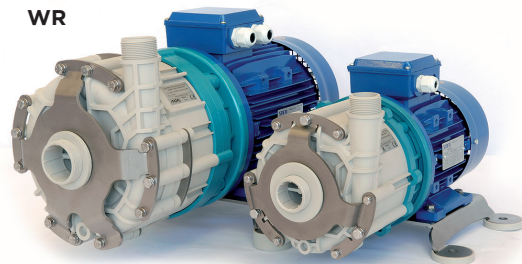
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HORIZONTAL CENTRIFUGAL PUMPS

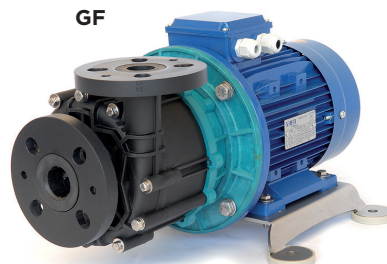
FOR CORROSIVE FLUIDS, CLEAN AND WITH SOLIDS

Our **ROUTE** series of thermoplastic pumps are available in magnetic driven and mechanical seal versions for pumping a diverse range of chemicals with impurities and suspended solids. A patented system for dry running without damage is available for the magnetic driven "T" version. **ARGAL's** ex-proof configuration made of PP or E-CTFE + carbon fiber makes **ROUTE** pumps ideal for operating in explosive atmospheres.



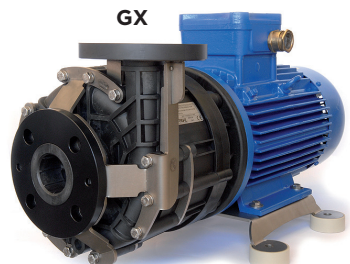
ROUTE TMR

Magnetic-driven close-coupled pumps



ROUTE ZMR

Mechanical sealed close-coupled pumps



CONSTRUCTION

TMR (G2-G3 sizes)	WR	GF	GX*
Volute casing	GFR/PP	CFF/E-CTFE	CFF/E-CTFE
Rear casing			
Centrifugal impeller			
OR gasket	FKM (1)	FKM (1) ; (2)	FKM (1) ; (2)

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

MATERIALS

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*	CFF/E-CTFE	-20°C (-4°F)	100°C (212°F)	-20÷40°C (-4÷104°F)

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

FOR ALL CHEMICALS

The **ROUTE** pumps are ideal for all chemicals at low and medium temperatures with the bodies made of WR or GF:

- **Loaded fluids, lightly abrasive**

The different internal configurations of the materials allow to pump both clean fluids and with solids in suspension or moderately abrasive.

- **Heavy fluids**

Strong magnetic coupling made of rare-earth materials (Neodimium Iron Boron) and "N" (standard), "P" (powered) or "S" (strongly powered) versions allow to pump liquids with 1.05 - 1.35 - 1.8 specific gravity respectively.

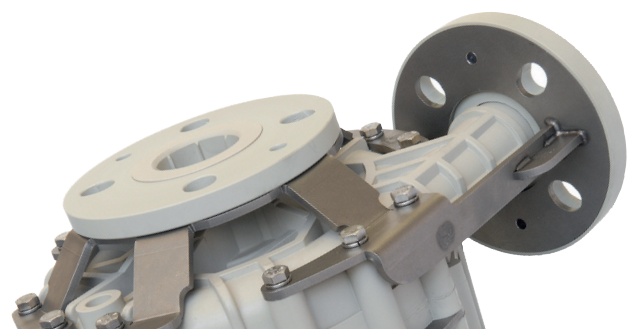
ATEX

ROUTE pumps made of PP or E-CTFE + carbon fiber are perfect for operating into **EXplosive ATmospheres**. They can run in **Group II** areas and **category 1, 2, 3** according to the level of protection. Thanks to the carbon fiber, they are ideal for gaseous atmospheres (**Zone 1, Zone 2**).

MAIN APPLICATIONS

- Water and wastewater treatments
- Surface treatments
- Chemical and pharmaceutical processes
- Lithium battery storage
- Semiconductors
- Photovoltaic

View of stainless steel reinforced flat-face flange connections



MAGNETIC DRIVE “T”

The magnetic driven pump does not have rotating seal. The pump is sealed with an O-ring static gasket placed between the volute and the rear casing. The magnetic driven pumps can be coupled to standard NEMA motors without disassembling the pump.

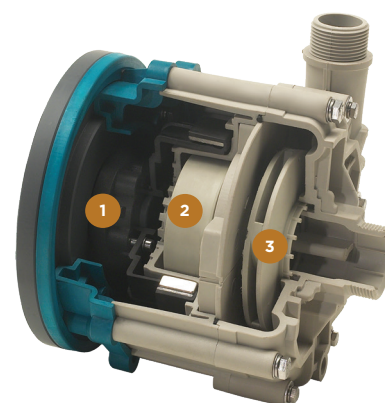
GUIDING SYSTEMS

TMR (G2-G3 sizes)	WR			GF			GX	
	R1	X1	N1	R2	X2	N2	R2	N2
Guide bushing	Carbon HD	SiC	GFR/PTFE	Carbon HD	SiC	GFR/PTFE	Carbon HD	GFR/PTFE
Thrust bush	CER			SiC			SiC	
Shaft	CER			SiC			SiC	

R2 - standard conditions P2 - critical conditions X2 - extreme conditions

DRY-RUNNING PATENTED (OPTIONAL)

The impeller subjected to different hydraulic load is free to move axially. Two rings which are limit devices of its excursion fix the work-space it engages during the standard operation. In case of anomalies due to pressure loss while dry-running, the extra magnetic field calls back the impeller to the neutral position.



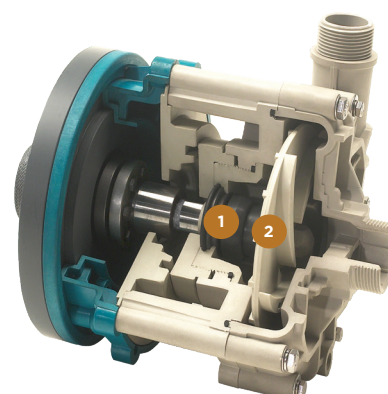
- 1 Magnetic-driven assembly
- 2 Centrifugal impeller (magnetic part)
- 3 Centrifugal impeller (covered type)

MECHANICAL TRANSMISSION “Z”

In the sealed version, the impeller is mounted on the motor shaft and leakage in the motor is prevented by mechanical seals of appropriate material. The mechanical seal allows the transfer of liquids with solids and abrasives.

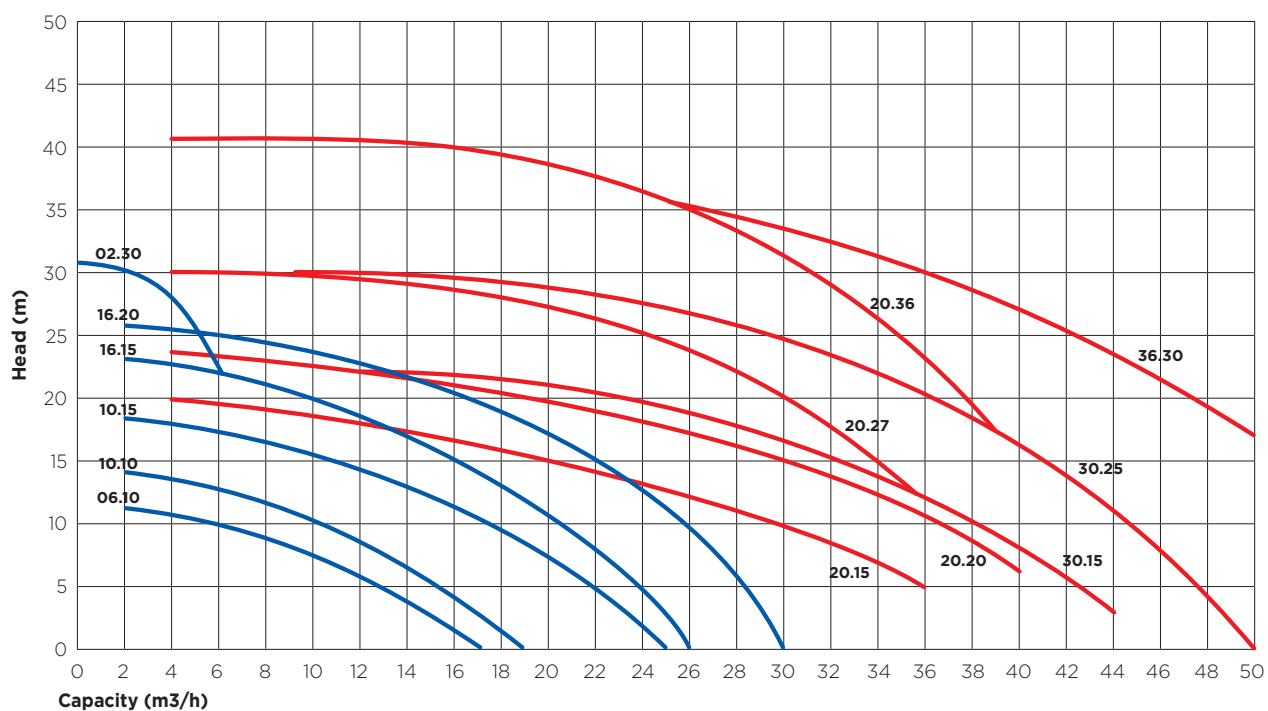
MECHANICAL SEALS

CONSTRUCTION	MODEL	ROTATING PART	FIXED RING	BELLOW	WORKING CONDITIONS	
INTERNAL SINGLE	BS5	CARBON	CER	FKM	LOW COST (easy maintenance)	
	BS7		SiC			
	BS6	SiC	CER		LOW COST HARD PARTICLES (easy maintenance)	
	BS8-BF3**		SiC		HARD PARTICLES	
EXTERNAL SINGLE	SF1	GFR/PTFE	CER	PTFE	NORMAL USE	
	SF2		SiC			
	TS5	CARBON	CER	FKM		HARD PARTICLES
	TS7		SiC			
	TS6	SiC	CER			
	TS8		SiC			
DOUBLE	MSF1	GFR/PTFE	CER	PTFE	CRITICAL	
	MSF2		SiC			
	MTS5	CARBON <i>2nd rotating part CARBON</i>	CER	FKM		EXTREME
	MTS7		SiC <i>2nd: CER</i>			
	MTS6	SiC	CER			
	MTS8		SiC			

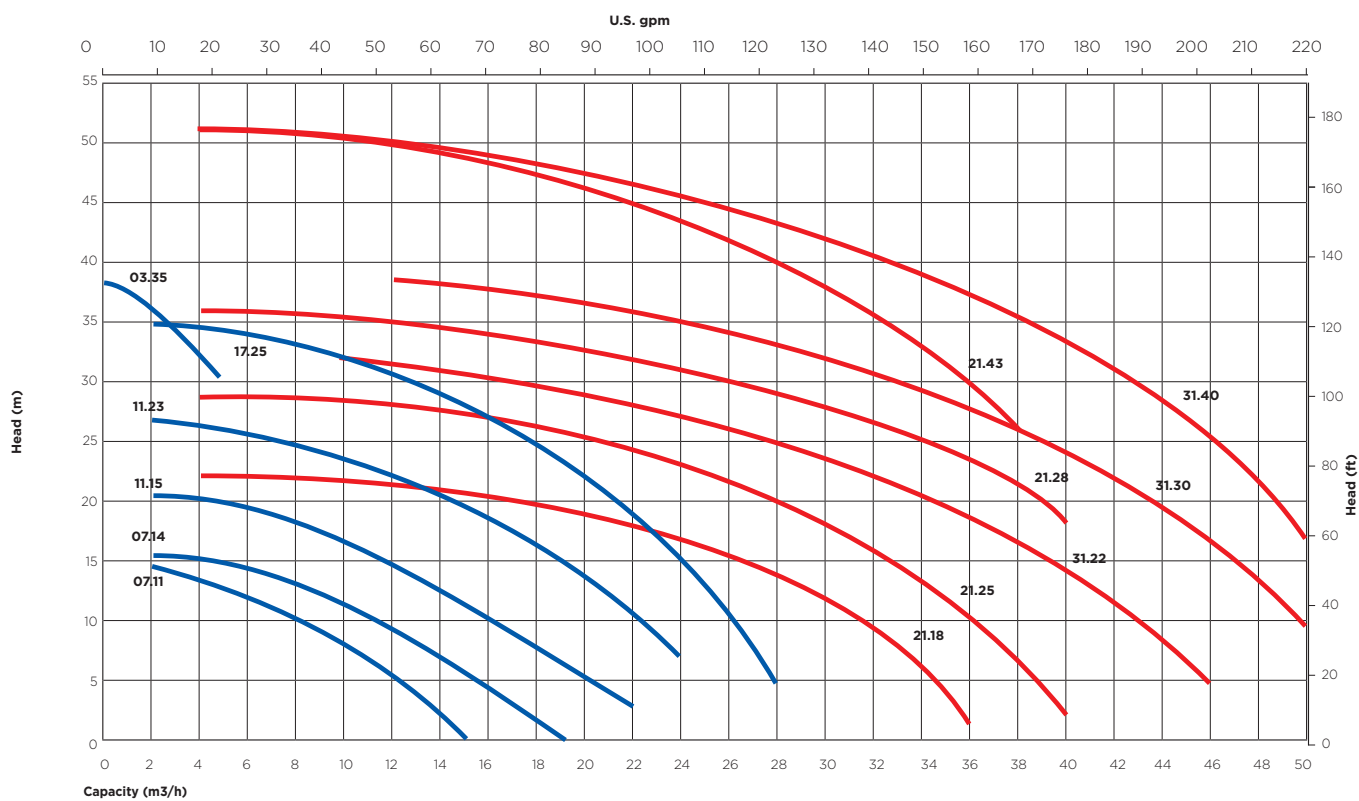


- 1 Internal mechanical seal
- 2 Centrifugal impeller (open type)

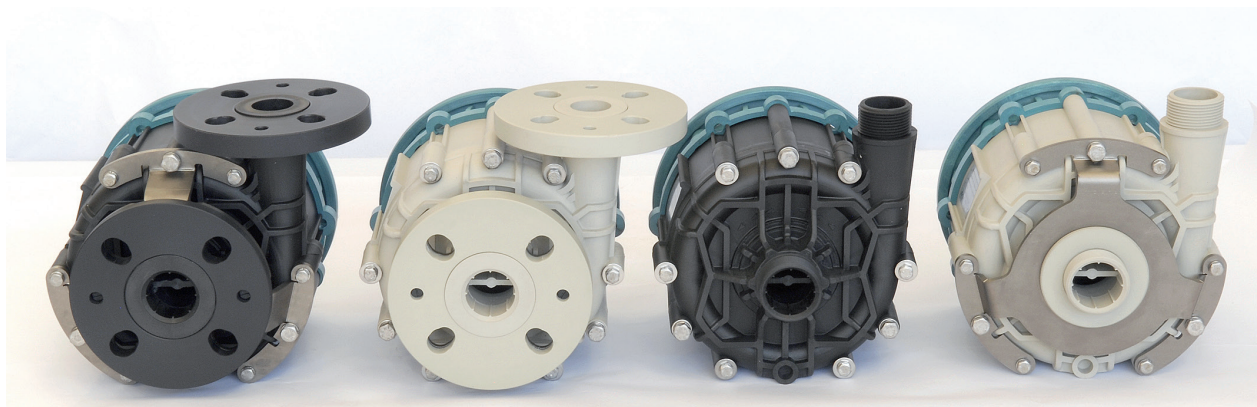
● G3
● G2 **Curves 2900 r.p.m. -50Hz**



● G3
● G2 **Curves 3500 r.p.m. -60Hz**



NOTES: All curves are referred to: water at 20°C - viscosity 1 °E - specific gravity 1 kg/dm³



Flanged version
with armour

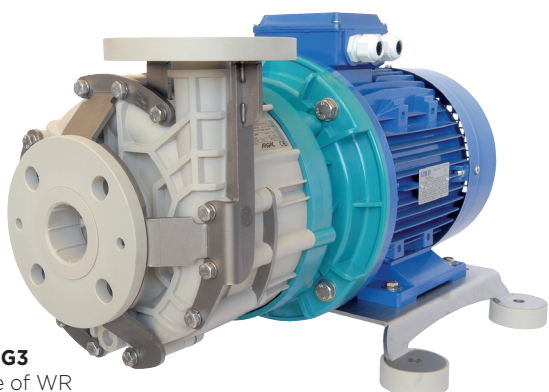
Std flanged
version

Std threaded
version

Threaded version
with armour

ARMOUR

A stainless-steel armor was designed to fit all models to protect the front casing from accidental mechanical shocks of various nature (e.g.: start up with vacuum in inlet piping with possible tubing excursions due to elastic brackets or thermal elongation). The guard plate is optional for the G3 size of pumps.

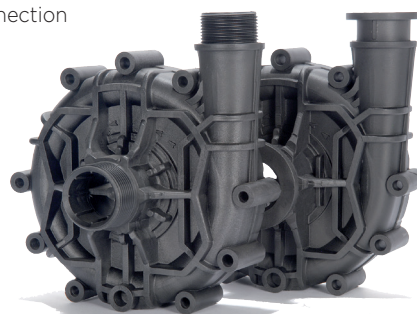


ZMR G3
made of WR

BASEPLATE

The base for anchorage of the pump is in stainless steel with ground terminals in chemical-resistant thermoplastic materials. It is supplied upon request.

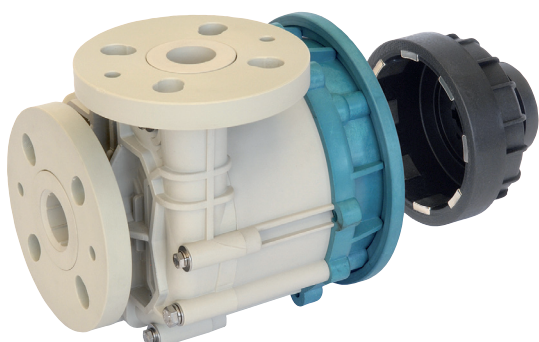
"BSP" outlet cylindrical
threaded connection



Detail of outlet flanged
connection directly to the
plant flange

VARIOUS CONNECTIONS

Connections with BSP cylindrical thread or NPT;
flanges ISO, ANSI, JIS.



WET-END

The complete casing (or wet-end) of any magnetic driven **ROUTE** pump can easily be detached from the other parts, without opening it.

MAG-DRIVE &
MECH-SEALED
CENTRIFUGAL
PUMPS

PNEUMATIC
AODD &
METERING
PUMPS
PULSATION
DAMPENERS

SUBMERSIBLE
PUMPS



SELF-PRIMING
PUMPS

VERTICAL
SUMP PUMPS

ARGAL srl

Via Labirinto, 159 - 25125 BRESCIA - (Italy)
Phone +39 030 3507011 - fax +39 030 3507077
info@argal.it - www.argalpumps.com



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