

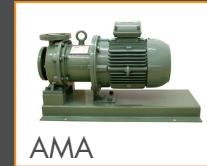
AMA PUMP RANGE

END SUCTION, HORIZONTAL, **MAGNETIC DRIVE**, CENTRIFUGAL PUMPS



- ∞ CAPACITY <math><108\text{m}^3/\text{Hr}</math>
- ∞ HEAD <math><60</math> Metres
- ∞ PATENTED RUN DRY DESIGN
- ∞ OVER 70% OPERATING EFFICIENCY
- ∞ CORROSION RESISTANCE
- ∞ ETFE LINED

Part of the
MAGNETIC DRIVE
Pump Range



∞ AMA OVERVIEW

Magnetically driven pumps are the industry standard when processing harsh and highly corrosive applications. The centrifugal force is driven by two rotating magnets rather than being directly coupled to a motor, which eliminates the need for a mechanical seal, making magnetic drive pumps completely leak proof.

The AMA range of magnetic drive pumps are designed to ISO2858 and ISO5199 standards. The pumps deal with high temperatures, high pressures and highly corrosive applications effectively, efficiently and reliably. The AMA magnetic drive range is one of the most efficient pumps in the field, with average operating efficiencies over 70% reducing energy consumption and the pump life-cycle cost.

∞ REDUCED LIFE CYCLE COST

The patented run dry technology built into the AMA helps protect your pumps from a failure in the process. Most mechanically sealed pumps will fail when run dry, causing dangerous leakages and costly clean up bills as a result. However with the AMA, the pump can run dry for a number of hours alleviating process problems and avoiding damage to the pump.

The second patented design feature of the AMA range will increase the mean time between servicing, reducing overall maintenance costs of your process. Should the AMA pump be subjected to adverse operating conditions, vibration would normally reduce the life of the internal parts. However, with the dynamic buffer system acting as a shock absorber between the impeller and the casing, the pump is protected as a result, thus minimising wear and prolonging the pumps service life.

∞ HIGH EFFICIENCY DESIGN

The geometry of the impeller and casing are generated through hydraulic design programmes. Whilst taking into account the fluid dynamics, hydraulic loss is minimised and pump efficiency maximised. Lower electricity costs also come from the use of high efficiency IE3 motors.



2 YEAR WARRANTY



ATEX ZONE 1/2 CERTIFIED



**2858, 5199
2084, 3661**



LOW PUMP LIFE CYCLE COSTS



PATENTED BUFFER SYSTEM



CORROSION RESISTANCE



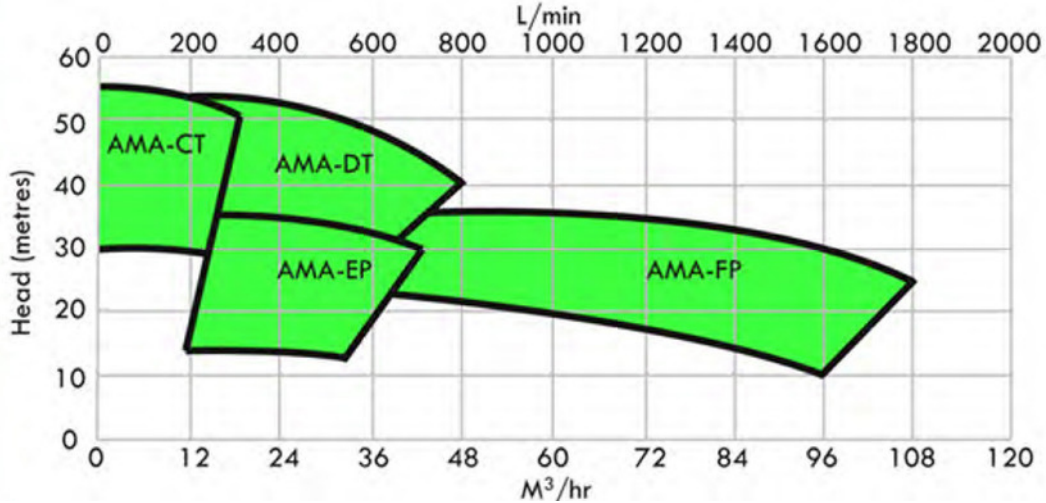
ETFE LINED CONSTRUCTION

AMA PUMP RANGE

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∞ RANGE CURVES

Pump curves for the magnetic drive AMA-CT, AMA-DT, AMA-EP and AMA-FP.



∞ TECHNICAL SPECIFICATION

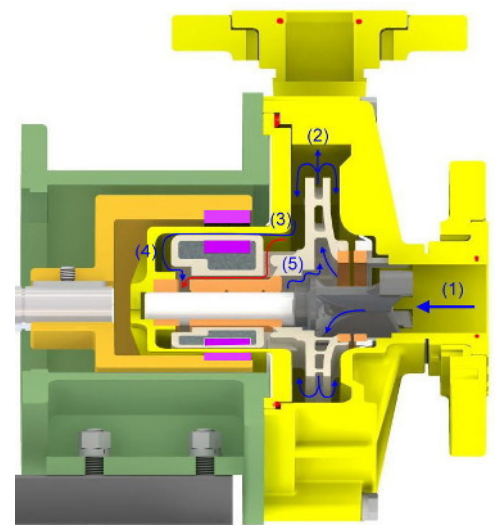
MODEL	SUCTION (mm)	DIS-CHARGE (mm)	SPEED (rpm)	RATED CAPACITY (m ³ /hr)	RATED HEAD (m)	MAX CAPACITY (m ³ /hr)	MAX HEAD (m)	MOTOR OUTPUT (kW)	BEST EFF (%)
AMA CT	50	32	2900	17	45	45	54	5.5	70
AMA EP	65	50	2900	36	33	60	37	7.5	74
AMA DT	65	40	2900	36	45	54	57	11	75
AMA FP	80	65	2900	72	32	108	38	15	77

∞ PATENTED RUN DRY DESIGN

Unfortunately, errors can occur in a process that cause a pump to run dry. For a mechanically sealed pump this can cause an almost immediate failure to the seal. Some mag drive pumps are now available with special material bearings to prevent the onset of damage from running dry, but Crest Assoma Mag Drive pumps go another step further with the patented circulation path for additional cooling.

Under normal operating conditions, the pumped liquid acts as lubrication between the rotating and stationary parts, and the heat generated by the rotational action is gently taken away by the circulating liquid. But when a pump is starved of liquid, these moving parts generate heat from friction and as the heat builds up, damage will occur.

However, with the Crest Assoma Mag Drive range, a patented auxiliary circulation channel runs between the bearing and the magnet capsule. The pressure difference has a convection effect for cooling both the interior and exterior of the bearing thereby preventing the high temperature build up caused from dry running. The key point of this feature though, is that whilst the design allows for increased cooling, there is no reduction in pump efficiency.



AMA PUMP RANGE

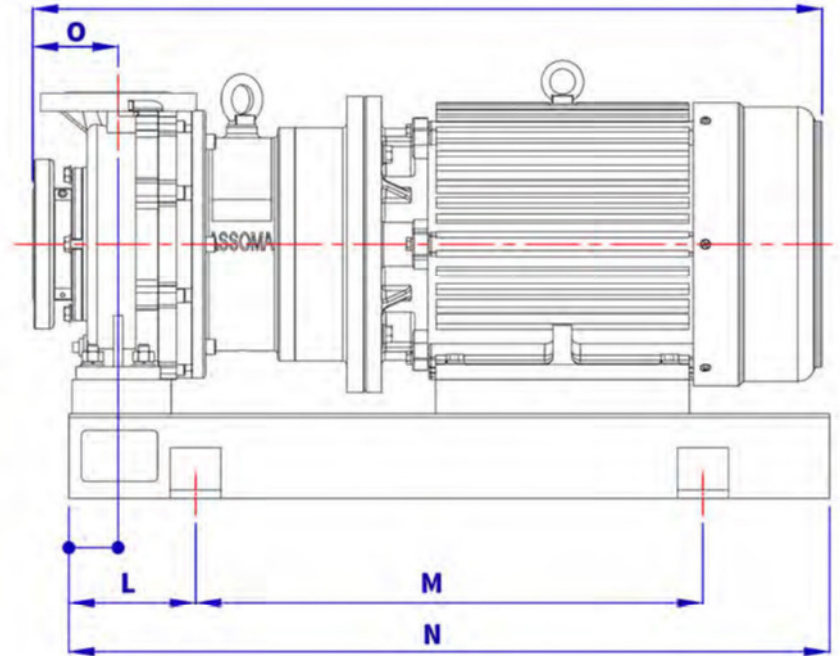
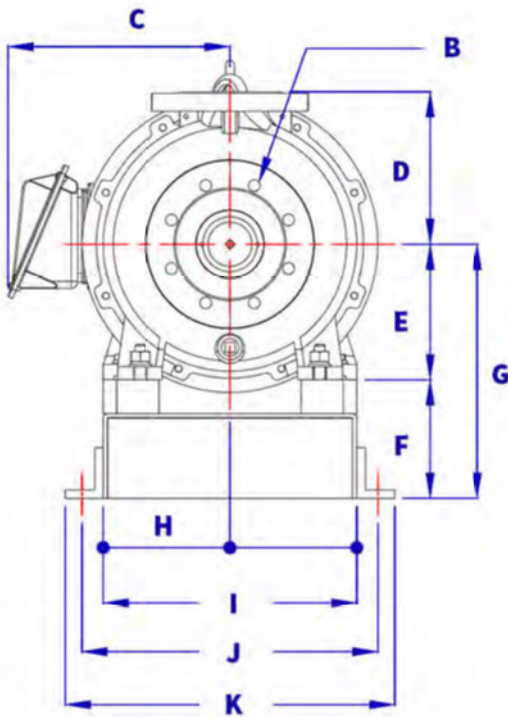
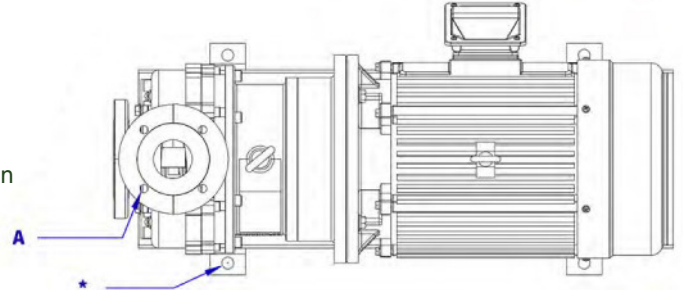
END SUCTION, HORIZONTAL, **MAGNETIC DRIVE**, CENTRIFUGAL PUMPS

∞ RANGE DIMENSIONS

For specific 3D CAD drawings or specific pump dimensions, please contact us at info@crestpumps.co.uk or telephone +44 (0)1425 627700.

NOTE:

1. The total length and weight of the pump will differ depending on the brand of the motor.
2. All dimensions are in mm.
3. Assembly tolerances are +/- 3mm.



PLEASE ALLOW FOR MANUFACTURING TOLERANCES OF UP TO +/- 3MM

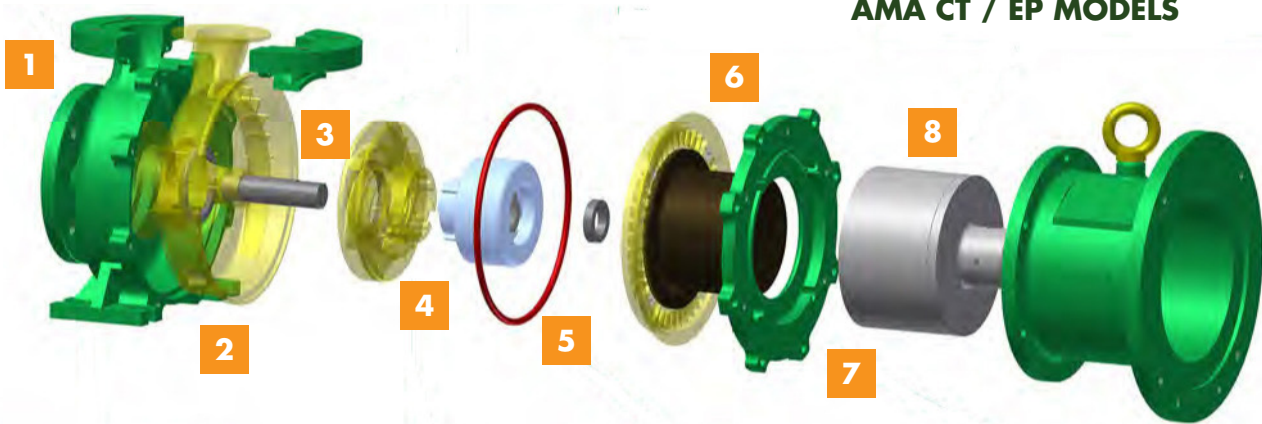
MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
AMA CT	4	4	224	180	160	120	280	180	270	320	360	130	540	800	80
AMA EP	4	4	224	160	132	120	252	135	270	320	360	130	540	800	80
AMA DT	4	4	263	180	160	140	300	150	300	350	390	150	600	900	100
AMA FP	4	4	263	180	160	140	300	150	300	350	390	150	600	900	100

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EXPLODED VIEW

AMA CT / EP MODELS



AMA DT / FP MODELS

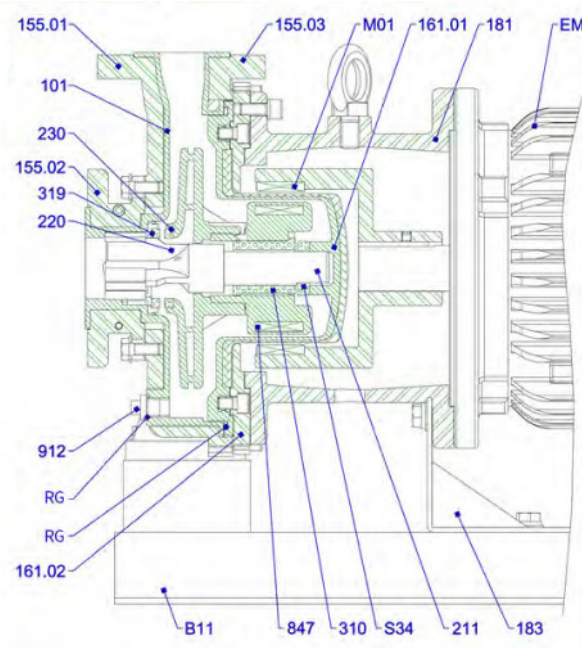


- 1 Reinforced armour** – The ductile iron casing armour is lined with carbon fibre reinforced ETFE for nearly universal corrosion resistance and structural strength.
- 2 Dynamic Buffer** – The innovative dynamic buffer system is specially designed to absorb vibrations caused by adverse operation conditions.
- 3 Stationary shaft** – The stationary shaft provides rotational parts with rigid and stable operational conditions. Available in SSiC or ceramic gives the pump superior corrosion resistance.
- 4 Finely tuned geometry** – The geometry of the impeller and casing are fine tuned by a design programme to reduce hydraulic loss and increase efficiency.
- 5 Revolutionary Run Dry design** – The patented bearing design with dual-channel circulation contributes to rapid head dissipation and preventing damage when run dry.
- 6 Strength & resistance** – The moulded carbon fibre reinforced ETFE casing offers a combination of strength and chemical resistance.
- 7 Heavy duty** – An extra heavy duty backplate made of ductile iron precisely aligns and supports the rear casing with the front casing. This is separate from the bracket allowing pull out servicing with out opening the liquid end of the pump.
- 8 Magnetic field analysis** – The latest magnetic field analysis programme is used to calculate magnetic torque. This maximises magnet utilisation and ensures a sufficient torque coupling to prevent de-coupling.
- 9 Long service life** – An integrated one piece impeller enhances locking power with the shaft giving a longer service life. All impellers are designed with pump efficiency as top priority.
- 10 Stable operation** – The high strength bearing support structure is used to support the bearing bushing for stable operation. The high purity SiC axial and radial thrust bearing are designed with high torsional security to provide superior abrasion and corrosion resistance.

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PARTS LIST & MATERIAL CONSTRUCTION



MATERIAL CODE	PART	ACE	ACV	SSE	SSV	QUANTITY
101	PUMP CASING	ETFE + CF				1
155.01	CASING ARMOUR	FCD				1
155.02	INLET ARMOUR	FCD				1
155.03	OUTLET ARMOUR	FCD				1
161.01	REAR CASING WITH COVER	ETFE+CF, CARBON FRP				1
161.02	BACKUP PLATE	FCD				1
181	BRACKET	FC				1
183	BRACKET FOOT	SUS304				1
211	SHAFT	995 CERAMIC		SSiC		1
220	FRONT SUPPORT, SHAFT	ETFE+CF				1
230	IMPELLER	IMPELLER	ETFE+CF			1
		FRONT WEAR RING	CARBON		SSiC	1
310	BEARING	CARBON		SSiC		1
319	THRUST RING & BUFFER	FRONT BUFFER	ETFE			1
		FRONT THRUST RING	995 CERAMIC		SSiC	1
847	MAGNET CAPSULE	ETFE, Nd-Fe-B				1
912	DRAIN PLUG	ETFE + CF				1
B11	BASE PLATE	SUS304				1
EM	MOTOR	ALUMINIUM ALLOY / FC				1
MO1	DRIVE MAGNET	Nd-Fe-B				1
RG###	O-RING	EPDM	VITON	EPDM	VITON	1
REAR THRUST RING	REAR THRUST RING	995 CERAMIC			SSiC	1

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CASE STUDY - OVIVO



“ OVIVO saved time and running costs by choosing the Crest AMA range, built uniquely for Ovivo with their specifications for a desalination plant in Saudi Arabia”

OVIVO were part of a \$3.3bn project in Saudi Arabia for Hyundai Heavy Industries to build two new desalination and thermal power plants.

OVIVO had a very specific set of requirements which included the pumps manufactured from EFTE (due to its vast chemical and high temperature resistance), along with a very detailed specification for marine grade paint and specially adapted baseplates.

Crest supplied the magnetically driven AMA range of highly efficient and highly durable chemical process pumps. After carrying out a Life Cycle Cost comparison with the client, it was estimated that the higher efficiency would save the user <23% on pump energy costs compared to other bidders.

OVIVO later informed us that Crest were chosen, not only due to pump efficiency, but also because they could rely on us to meet the standards required and deliver the job on time.



CREST MAGNETIC DRIVE PUMPS - UTILISED BY



APPLICATIONS



CHEMICAL

Chemical applications include chemical transfer, dosing, re-circulation, filtration, fume scrubbing and tanker off-loading.



PETROCHEMICAL

Previous petrochemical installations include high temperature, high pressure, highly viscous applications as well as chemical injection, re-circulation, off-loading and solid handling.



WATER TREATMENT

Providing reliable process pumps to the UK's largest wastewater treatment providers, for chemical transfer, desalination, reverse osmosis, water treatment and tanker unloading.



PHARMACEUTICAL

Pharmaceutical companies have relied on Crest Pumps to provide pumps for ATEX requirements, chemical injection, CIP pumping, solid handling, high viscous medias and highly toxic applications.



BIOFUELS

Fully ATEX certified process pumps for transfer of liquids in explosive atmospheres, solids handling, tanker unloading, recirculation and transfer.



ENERGY GENERATION

Pumps supplied for various energy generation applications, including wind turbine, solar, and Vanadium redox flow batteries.



MARINE

Centrifugal pumps supplied for various below deck applications including ballast water treatment, electrolysis, desalination and sea water cooling systems.