

AVF-X PUMP RANGE

ULTRA EFFICIENCY, **MAGNETIC DRIVE**, CENTRIFUGAL PUMPS



-  CAPACITY <math>< 84\text{m}^3/\text{hr}</math>
-  HEAD <math>< 45</math> Metres
-  EXCEEDS EUROPE'S HIGHEST EFFICIENCY STANDARDS
-  REDUCES YOUR OPERATING COSTS
-  SUITABLE FOR ANY CORROSIVE LIQUID
-  EX-STOCK AVAILABILITY
-  ASSEMBLED IN THE UK

Part of the
MAGNETIC DRIVE
Pump Range



AVF-X OVERVIEW

The AVF-X series is one of the first plastic magnetic drive pumps to meet the highest European pump efficiency standards on the market (Commission Regulation (EU) No. 547/2012 with an MEI ≥ 0.7). This means you can rest assured knowing you are using one of the most energy efficient pumps available and benefiting from exceptional energy savings in your production processes whilst reducing your overall carbon footprint.

The AVF-X Series features breakthrough designs focused on improving pump efficiency. Superseding the AMX range, the volute and impeller have been completely re-designed with a 3-Dimensional impeller and centreline volute casing to enable even longer service life whilst consuming less energy and reducing your running costs. With pumps accounting for half of all the energy consumed in an industrial plant, we believe that every pump should be reliable and efficient because if your pump doesn't perform well, your plant won't either.

The AVF-X Series of pumps handle highly corrosive or toxic chemicals for everyday applications. The sealless, magnetic-drive construction fully contains the chemical to prevent leakage and pollution of your work environment. Mag drive pumps work by using a magnetic coupling to transfer the mechanical energy from the motor to the pump's impeller. A drive magnet is attached to the motor shaft and on the pump side, an inner magnet is attached to the pump impeller. The magnetic flux between the drive and inner magnets pass through the pump containment shell, forming the magnetic coupling and allows the pump to be hermetically sealed for leak-free operation.

Contact us to learn more about how our AVF-X series pumps can help you achieve your climate goals. If you need a variable speed pump with the same high efficiency pump design, check out our AVF-C pumps for even greater energy savings!

-  **EX STOCK AVAILABLE**
-  **2 YEARS WARRANTY**
-  **ATEX ZONE 1/2 AVAILABLE**
-  **ULTIMATE EFFICIENCY**
-  **PATENTED RUN DRY**
-  **CORROSION RESISTANCE**



Scan here for more information
or a quotation.

AVF-X PUMP RANGE

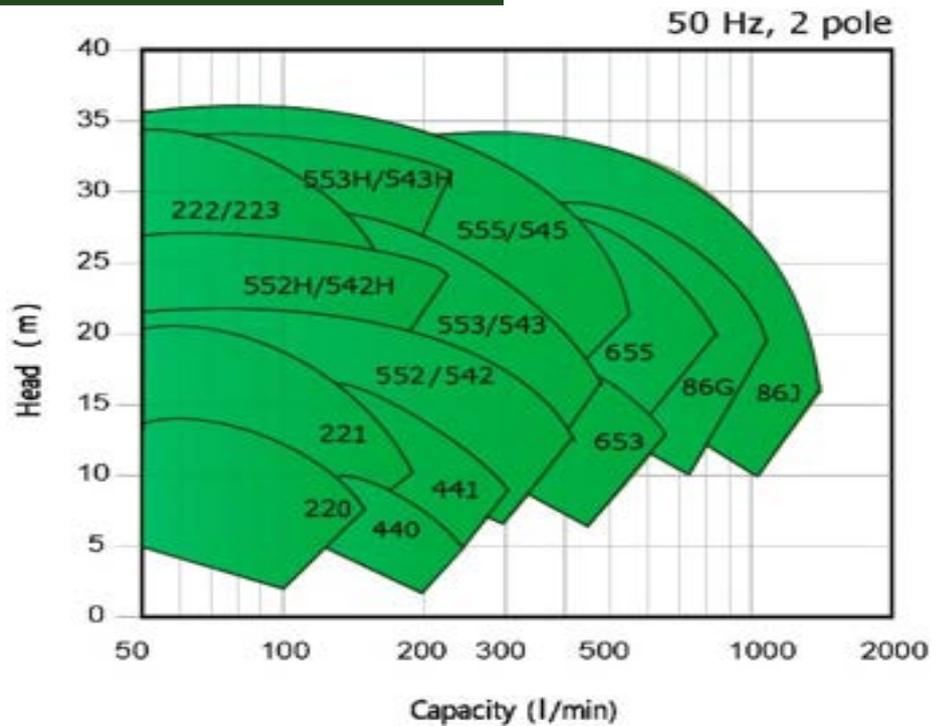
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RANGE CURVES

Performance curve family for the magnetic drive AVF-X ranges.

INFORMATION

For more specific model curves, general arrangement drawings or exploded views of individual models, please visit www.crestpumps.co.uk.



TECHNICAL SPECIFICATION

MODEL	SUCTION (mm)	DIS-CHARGE (mm)	SPEED (rpm)	RATED CAPACITY (L/min)	RATED HEAD (m)	MOTOR OUTPUT (kW)
AVF-X 220	25	25	2900	100	12.4	0.37
AVF-X 221	25	25	2900	120	18	0.75
AVF-X 222	25	25	2900	80	33.2	1.5
AVF-X 223	25	25	2900	80	33.2	2.2
AVF-X 440	40	40	2900	120	10	0.37
AVF-X 441	40	40	2900	200	14	0.75
AVF-X 552	50	50	2900	200	20	1.5
AVF-X 552H	50	50	2900	150	26.1	1.5
AVF-X 553	50	50	2900	250	25.6	2.2
AVF-X 553H	50	50	2900	150	33	2.2
AVF-X 555	50	50	2900	300	32	3.75
AVF-X 653	65	50	2900	540	15.5	2.2
AVF-X 655	65	50	2900	600	25.9	3.75
AVF-X 86G	80	65	2900	1000	21.2	5.5
AVF-X 86J	80	65	2900	1000	26.3	7.5

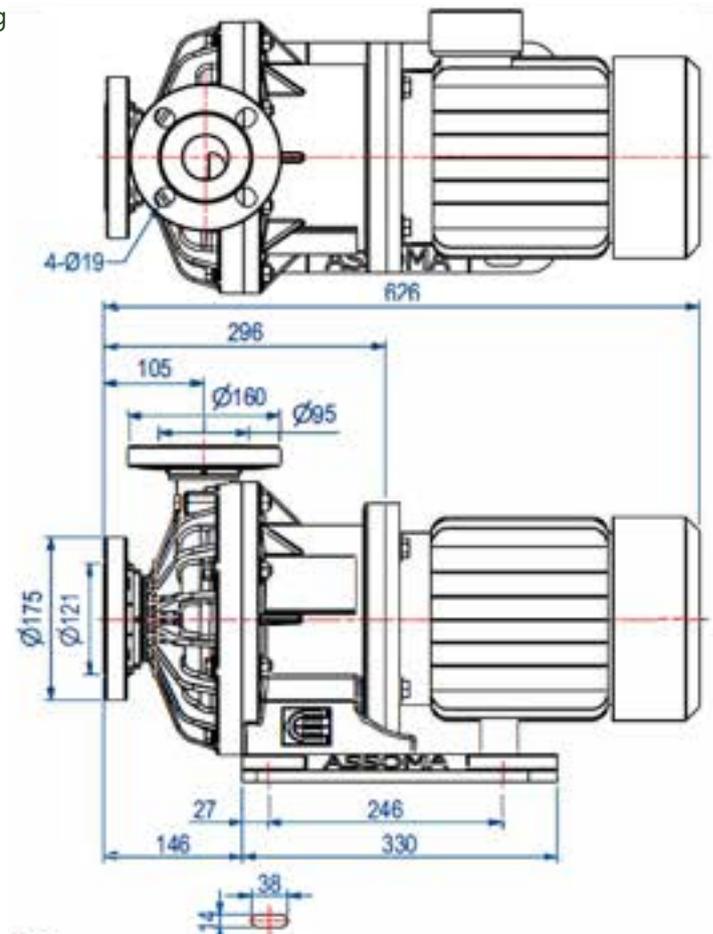
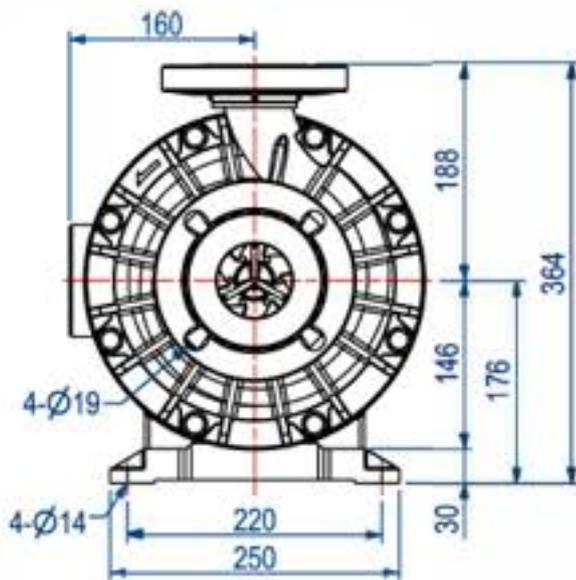
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RANGE DIMENSIONS

NOTE:

1. All dimensions in millimeter.
2. Tolerances of overall dimensions are according to DIN EN 735.
3. The total length and weight of the pump will differ depending the brand of the motor



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
AVF-X 221	121	188	100	130	284	30	195	225	472	234	80	35	128	135	203
AVF-X 441	121	153	100	130	283	30	195	225	484	246	93	35	128	147	203
AVF-X 552	160	188	146	176	364	30	220	250	556	276	102	27	246	132	330
AVF-X 553	160	188	146	176	364	30	220	250	556	276	102	27	246	132	330
AVF-X 555	160	188	146	176	364	30	220	250	617	287	102	27	246	136	330
AVF-X 655	160	188	146	176	364	30	220	250	626	296	105	27	246	146	330

*Dependant on motor type



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EXPLODED VIEW



1 High Efficiency Volute - Centreline discharge improves the hydraulic efficiency.

2 High Efficiency Impeller - Patented 3-dimensional impeller with new volute increases overall pump efficiency beyond European highest standard of $MEI > 0.70$.

3 Improved Magnet Capsule - Re-designed coupling between the impeller and magnet improves the connection in order to withstand torque under higher operating temperatures and increase the operating life of the pump.

4 Patented Run-Dry Design - A patented circulation channel runs between the bearing and magnet creating a pressure differential that dissipates the heat build up within the pump and preventing the damage normally associated to dry running.

5 Double O-Ring Flange Assembly - The orientation of the flange can be varied to match the corresponding boltholes to facilitate existing pipework. The Double O-Ring increases the mean time between servicing giving a longer service life and less maintenance requirements.

6 Integrated CAD Design - The very latest CFD (Computational Fluid Dynamics) design software has enabled the AVF-X range to outperform Europe's toughest pump efficiency standards.

AM RANGE

CAPACITY 150L/M
HEAD 10M
EX STOCK



AVF-C RANGE

CAPACITY 108 M³/HR
HEAD 80M
HEAVY DUTY DESIGN



AMX RANGE

CAPACITY 800 L/M
HEAD 35M
RUN DRY DESIGN



AMA RANGE

CAPACITY 108 M³/HR
HEAD 80M
HEAVY DUTY DESIGN



AVF-X RANGE

CAPACITY $84\text{m}^3/\text{hr}$
HEAD 45M
EX STOCK



AME RANGE

CAPACITY 180 M³/HR
HEAD 50M
HEAVY DUTY DESIGN



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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.

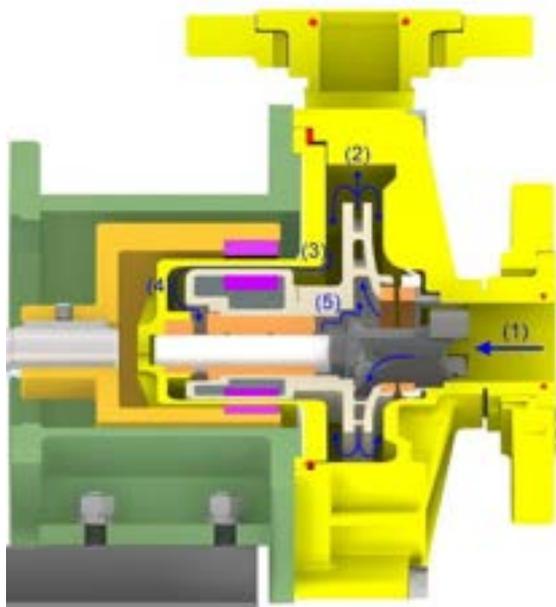
Under normal operating conditions, the pumped liquid acts as lubrication between the rotating and stationary parts, and the heat generated by the rotational action is gently taken away by the circulating liquid. But when a pump is starved of liquid, these moving parts generate heat from friction and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

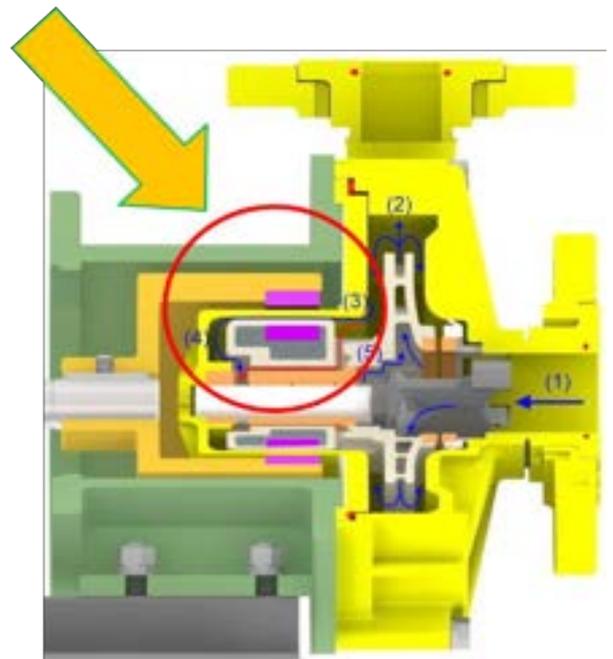
We must point out that there are many ways to run a pump dry, and this design feature is in no way a failsafe method (you should question any pump manufacturer that does make this claim). It depends upon how (e.g. completely closed inlet valve, air lock, foot valve failure, etc) and for how long the pump is run dry, as to how long the Crest Assoma Mag Drive range will run without damage being caused. For test reports or further information, please contact our engineers. If a pump is to be installed in an application where the pump is likely to see risks of dry running, then we would always recommend the installation of the PSP1 dry run monitor for additional peace of mind.

*This run dry design only applies to carbon/ceramic internal parts and not SSiC

Traditional circulation path



Assoma circulation path

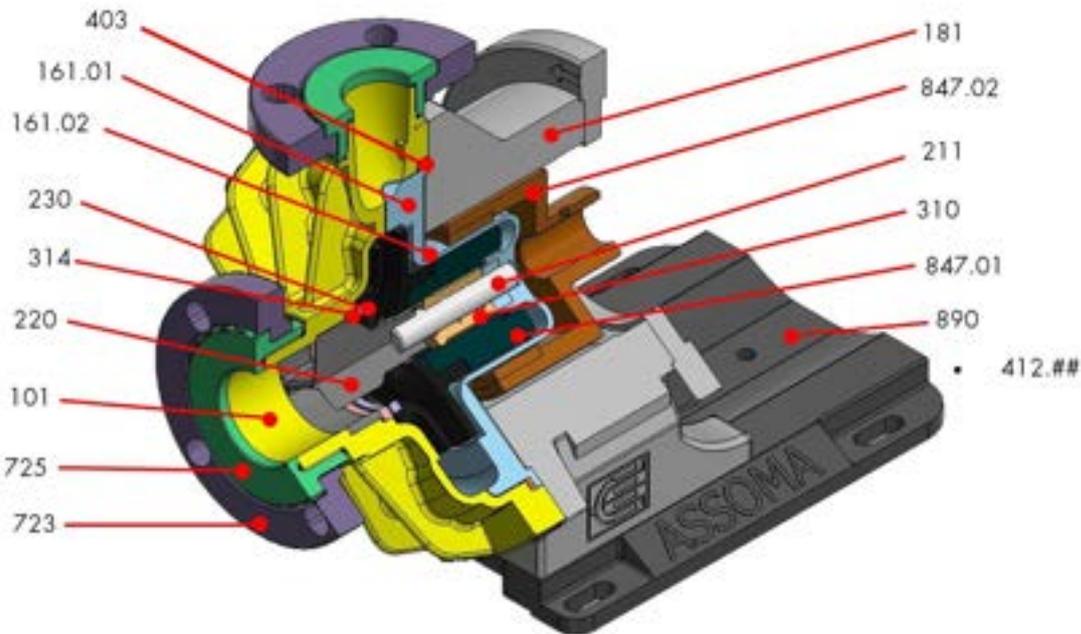


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PARTS LIST & MATERIAL CONSTRUCTION



MATERIAL CODE	PART NAME		AVAILABLE MATERIALS
101a	PUMP CASING ASSEMBLY	101 PUMP CASING	PP+GF / PP+CF / ETFE+CF
		723 FLANGE	PP+GF
		725 FLANGE ADAPTOR	PP+GF / PP+CF / ETFE+CF
		412.## O-RING	EPDM / FKM
161.01	REAR CASING ASSEMBLY	REAR CASING	PP+GF / PP+CF / ETFE+CF
		REAR THRUST RING	995 Al ₂ O ₃ / SSiC
161.02	BACKUP PLATE		SUS304
181	BRACKET		PP+GF
211	SHAFT		995 Al ₂ O ₃ / SSiC
220	FRONT SUPPORT, SHAFT		ETFE + CF
230	IMPELLER WEAR RING ASSEMBLY	IMPELLER	PP+GF / PP+CF / ETFE+CF
		WEAR RING	CARBON / SSiC / PTFE+CF
310	BEARING		CARBON/PTFE+CF /995 Al ₂ O ₃ /SSiC
314	FRONT THRUST RING		995 Al ₂ O ₃ / SSiC
403	PACKING		EPDM/FKM
847.01	MAGNET CAPSULE		PP / ETFE
847.02	DRIVE MAGNET		Nd-Fe-B
890	BASE PLATE		PP+GF
412.##	O-RING		EPDM / FKM



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