



AMT - MAGNETIC Mixer

PRODUCT DESCRIPTION

The AerInnox magnetic mixer are designed complying with FDA rules for pharmaceutical and biotechnology industries. The most obvious advantage of the magnetic mixer is that enables the total integrity of the tank. The vessel shell is not penetrated and there are no mechanical seals or stuffing boxes; this minimized cross-contamination risk and also prevent toxic or high value media from leaking out of the vessel and thereby challenge the sterility of the vessel and its contents. Suitable for viscosities up to 800 cps the AR inox AMT -Magnetic Mixer offers great flexibility. Bottom mounting also leaves the top of the vessel clear for easy vessel access.

PRINCIPLE OF OPERATION

The AR inox magnetic mixer has a driven mixer that can be removed quickly and easily. A major advantage when sterilizing the vessel in an autoclave or when sharing a single drive units mechanism between vessels. A machined pad is welded into the bottom of the vessel (usually offset from a central bottom outlet valve). The impeller head is running by a drive unit mounts externally. Inside the impeller head there is a ring of special magnets encapsulated in a 316L ss housing, welded to this housing are the four mixing blades which form an integral impeller head.

PERFORMANCE

The geometry of the impeller allows an excellent axial pumping flow and very low shear rate for different applications (looking from the top, impeller always must rotate *clockwise*):

- mixing, diluting, maintaining in suspension.....
- speed range 80 to 380 rpm using an inverter. Depending on the size of vessel and impeller-head, levels of agitation can change from vigorous to gentle. Small volumes can be achieved.
- all product contact part are made in 1.4435 or 1.4404
The impeller head runs on a special grade tungsten carbide that has been manufactured under controlled conditions to achieve the correct size, grain structure and hardness.
- the blade shape and profile has been designed to optimize agitation levels and to direct a proportion of the cleaning fluid through the head.



Type	Volume range Vigorous / Gentle	Motor Power rating	Weight	Impeller Diameter	Weld plate Diameter / thickness
AMT-02-PAAM- # @ -1B	5 - 10 litres	60 w – 0,08 hp	4 Kg	Ø 75 mm	Ø 60 x10 mm
AMT-04- PAAA- # @ -1B	10 - 50 litres	120 w – 0,16 hp	5 Kg	Ø 104 mm	Ø 70 x10 mm
AMT-06- PAAS- # @ -1B	50 – 150 litres	250 w – 0,34 hp	6 Kg	Ø 130 mm	Ø 85 x15 mm
AMT-08- PAAS- # @ -1B	150 – 500 litres	0,55 kw – 0,74 hp	16 Kg	Ø 154 mm	Ø 125 x 23 mm
AMT-12- PAAS- # @ -1B	300 – 2.000 litres	0,75 kw – 1,00 hp	26 Kg	Ø 174 mm	Ø 150 x 23 mm
AMT-20- PAAS- # @ -1A	1.000 – 3.000 litres	1,50 kw – 2,01 hp	45 Kg	Ø 218 mm	Ø 185 x 23 mm
AMT-32- PAAS- # @ -1A	2.000 – 6.000 litres	2,20 kw – 2,95 hp	55 Kg	Ø 280 mm	Ø 250 x 30 mm
AMT-64- PAAW- # @ -1A	3.000 – 15.000 litres	5,50 kw – 7,38 hp	114 Kg	Ø 288 mm	Ø 250 x 30 mm

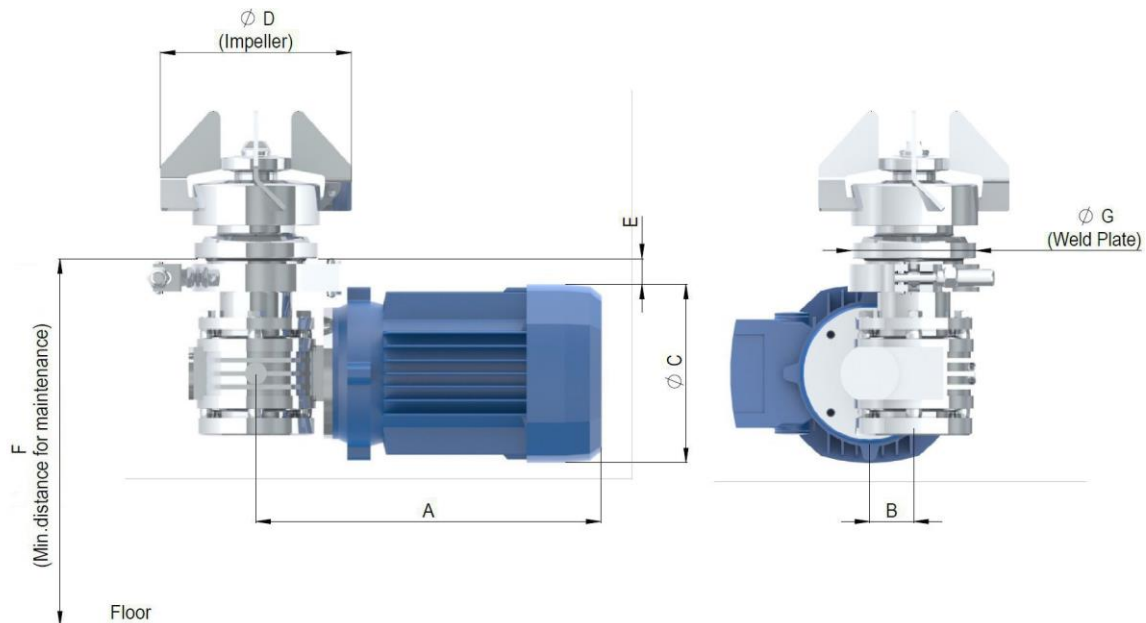
bearing combination @ bearing sealing

- The mixing capacities above are based on aqueous like products with a density of 1.000 Kg/m³ and a viscosity of 1cp.
- Typical applications for “Gentle mixing” are where solid are held in suspension or where powders easily dissolve into the liquid.
- Typical applications for “Vigorous mixing” are where a vortex is required for blending of powders into a liquid.

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Nominal Dimensions in mm



Type	A mm	B mm	Ø C motor	Ø D impeller	E mm	F mm	Ø G weld plate
AMT-02-AC Complete	190	30	Ø 92 mm	Ø 75 mm	16	180	Ø 65 mm
AMT-04-AC Complete	222	30	Ø 110 mm	Ø 104 mm	32	200	Ø 70 mm
AMT-06-AC Complete	248	30	Ø 126 mm	Ø 130 mm	32	200	Ø 85 mm
AMT-08-AC Complete	291	49	Ø 126 mm	Ø 154 mm	32	250	Ø 125 mm
AMT-12-AC Complete	335	62	Ø 158 mm	Ø 174 mm	38	280	Ø 150 mm
AMT-20-AC Complete	362	75	Ø 229 mm	Ø 218 mm	32	280	Ø 185 mm
AMT-32-AC Complete	420	72	Ø 180 mm	Ø 280 mm	30	350	Ø 250 mm
AMT-64-AC Complete	680	/	Ø 210 mm	Ø 288 mm	/	/	Ø 250 mm

General information

MATERIAL WETTED PARTS

Weld plate	stainless steel AISI 316L- 1.4404 or 1.4435
Impeller	stainless steel AISI 316L- 1.4404 or 1.4435
Static bearing	tungsten Carbide
Dinamic bearing	tungsten Carbide
O-Ring	FDA and USP Class VI

WELD PLATE

Surface roughness	Ra<0,5 micron or better manually polished or manually polished + electro polished
design pressure	-1 to +10 bar(g)
design temperaure	-80 to +200°C
in compliance with	the weld plate is classified in Europe, for the weld plate is classified in Europe, for PED Directive 97/23/EC Category IV and approved by Notified Body

labelling for full traceability purposes each weld plate is individually marked with item and heat No.

MOTOR DATA

Voltage	230/400V AC– 50Hz and 460/480V AC– 60Hz
Number of poles	2 except Atex execution which have 4 poles
Protection index	IP 55
Certified	CE/cCSAus, IEC, CEI/UNEL
Thermistor	1 (PTC, 150°C)

OPTIONAL ACCESSORIES

Speed sensor	a magnetic proximity sensor can be fitted onto weld plate to measure the rotation of the impeller
sensor type	PNP, Voltage 24V DC, degree of protection IP67
temperaure range	-10 to +125°C

ATEX execution II 2G-D T4

in compliance with the European Directive 94/9/CE ATEX available on request

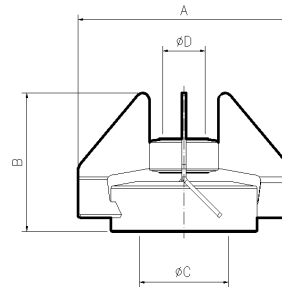
Warning : the assembled Mixer may have different design temperature and / or pressure limits. The weakest component in the assembled product determines the maximum design temperature and pressure limits.

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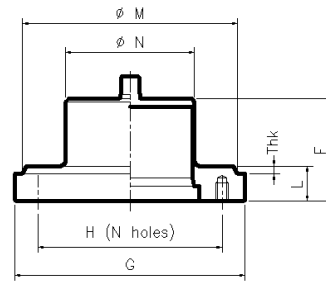
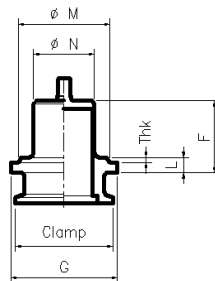


Impeller dimensions



Item code	A mm	B mm	Ø C weld plate	Ø D static bearing	Weight kg	compatible mixer type
TM2/4-T	75	56	33	22	0,490	TM02-AC
TM4/4-T	104	72	43	22	0,850	TM04-AC
TM6/4-T	130	78	57	22	1,050	TM06-AC
TM8/4-T	154	100	67	28	1,800	TM08-AC
TM12/4-T	174	102	87	28	2,200	TM12-AC
TM20/4-T	218	118	127	40	3,200	TM20-AC
TM32/4-T	280	128	169	40	4,750	TM32-AC
TM64/4-T	288	162	169	40	7,050	TM64-AC

Weld plate dimensions



Thk : to be defined on purchase order

Item No	F mm	G mm	L mm	H holes C/L	holes qty x dia	Clamp	Ø M Tank hole	Ø N	Weight kg
MM2/9/1-T	45	60	10	-	-	1"1/2	55	31	0,400
MM4/9/1-T	47	70	10	-	-	2"	60	40	0,500
MM6/9/1-T	52	85	15	-	-	2"1/2	75	54	0,800
MM8/9/1-T	67	125	23	95	8 x M8	-	115	64	1,900
MM12/9/1-T	67	150	23	120	8 x M8	-	140	84	2,500
MM20/9/1-T	70	185	23	160	9 x M8	-	175	124	3,550
MM32/9/1-T	81	250	30	200	8 x M12	-	240	166	
MM64/9/1-T	117	278	30	250	8 x M12	-	268	166	

Surface roughness: Ra<0,5 micron or better, manually polished or manually polished + electro polished

Material: stainless steel AISI 316L- 1.4404 or 1.4435 for round bar and blade plates, static female and dynamic male bearings in tungsten Carbide

In Compliance with: the weld plate is classified in Europe, for PED Directive 97/23/EC Category IV and approved by Notified Body

Non-standard executions available on request: Welding plate with bigger different thickness, shaft extension for vessel with jacket or thermal insulation, and also to ship the plate independently from the mixer, in order to accommodate customer requests.

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Optional available on request

Available options in order to accommodate specific customer requests

- Welding plate with bigger different thickness,
- Shaft extension for vessel with jacket or thermal insulation
- Proximity speed sensor
- Dismounting system for magnetic coupling
- Drive unit Atex execution
- Pneumatic drive unit
- Axial gear box for RPM increase
- Stainless steel drive unit
- Elecropolish impeller
- Silicon carbide bearings


Dismounting system for magnetic coupling to take off the impeller without any magnetic attraction and without remove the motor.
Dedicated for heavy, biggest size from TM20 to TM64



Ordering information

To specify the part completely, start with the product description and select the additional options as shown below:

AMT A -20 P AAS -A T 050 -E -1A

<p>ATEX execution  II 2G-D T4 in compliance with the European Directive 94/9/CE ATEX can be supplied upon request AX max speed 214 rpm AXR max speed 440 rpm</p>	<p>Optionals A proximity speed counter B dismounting system C predisposition for proximity D encoder E predisposition for dismounting system</p>
<p>Size available size 04, 06, 08, 12, 20, 32, 64</p>	<p>Extention mm of shaft length over than standard execution</p>
<p>Welding Flange S standard included P standard NOT included I for insulation tank included L for insulation tank NOT included</p>	<p>Seal T TFM PTFE other material on request</p>
<p>Engine + Gear Box AAS</p>	<p>Bearings A tungsten carbide E silicone carbide I zirconium oxide</p>

General information

- Weld plate and impeller in stainless steel AISI 316L -1.4435 as standard for size TM04, 06, 08 other sizes in 1.4404
- Temperature probe PTC as standard

Get the information you need and more at : info@aerreinox.it

In the interests of development and improvement of the product, we reserve the right to change the specifications without prior notice.

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