



# **AMT-Magnetic Mixer**

# **AMO-Homogenizer**



**Sanitary  
flow  
equipment**

# AMT-Magnetic Mixer

## Description

Designed complying with FDA rules for pharmaceutical and biotechnology industries. The most obvious advantage 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 offers great flexibility. Bottom mounting also leaves the top of the vessel clear for easy vessel access.

## Principle of Operation

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 blades which form an integral impeller head.

## 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
Bearing available	tungsten Carbide, silicon carbide, zirconium oxide
O-Ring	FDA and USP Class VI

### 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)

### WELD PLATE

Surface roughness	Ra<0,5 micron or better manually polished
Available on request	electro polished
design pressure	-1 to +10 bar(g)
design temperature	-80 to +200 °C
in compliance with	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.

### 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
temperature 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.*



## AMT Performance

The geometry of the impeller allows an excellent axial pumping flow and very low shear rate for different applications:

- mixing, diluting, maintaining in suspension.....

**speed range 50 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 316L. The impeller head runs on a special grade bearing 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.

**SAME W  
PLA**





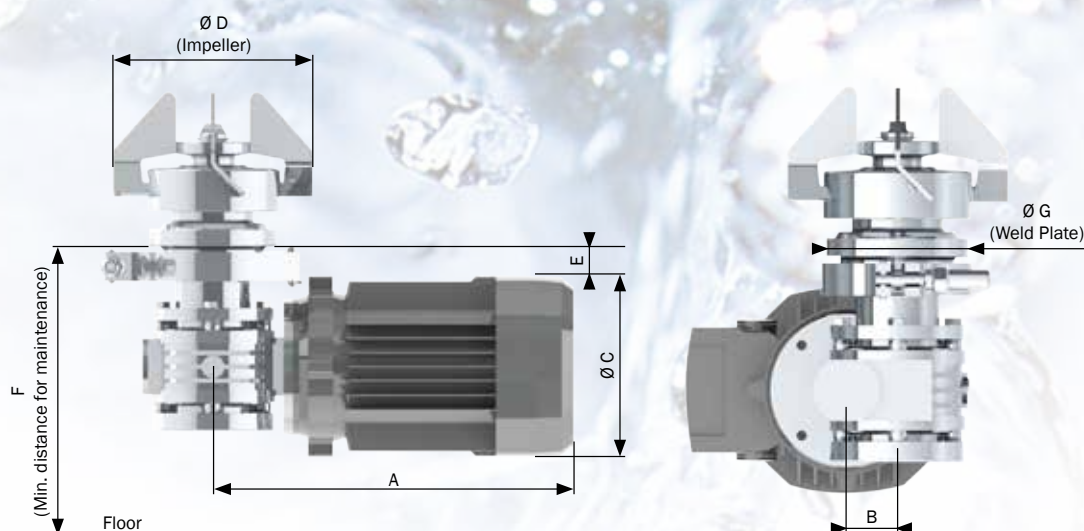


Dismounting system for magnetic coupling to take off the impeller without any magnetic attraction and without remove the motor. Dedicated for heavy, biggest size from AMT-20 to AMT-64.

Type	Volume Vigorous/Gentle	Motor Power rating	Weight	Impeller Diameter	Weld plate Diameter / Thickness
AMT-02	3-10 Lt	60 w – 0,08 hp	3,5 Kg	Ø 75 mm	Ø 60 x10 mm
AMT-04	10 - 50 Lt	90 w – 0,12 hp	5 Kg	Ø 104 mm	Ø 70 x10 mm
AMT-06	50 – 150 Lt	180 w – 0,24 hp	6 Kg	Ø 130 mm	Ø 85 x15 mm
AMT-08	150 – 500 Lt	0,55 kw – 0,74 hp	16 Kg	Ø 154 mm	Ø 125 x 23 mm
AMT-12	300 – 2.000 Lt	0,75 kw – 1,00 hp	26 Kg	Ø 174 mm	Ø 150 x 23 mm
AMT-20	1.000 – 3.000 Lt	1,50 kw – 2,01 hp	45 Kg	Ø 218 mm	Ø 185 x 23 mm
AMT-32	2.000 – 6.000 Lt	2,20 kw – 2,95 hp	55 Kg	Ø 280 mm	Ø 250 x 30 mm
AMT-64	3.000 – 10.000 Lt	5,50 kw – 7,38 hp	114 Kg	Ø 288 mm	Ø 250 x 30 mm

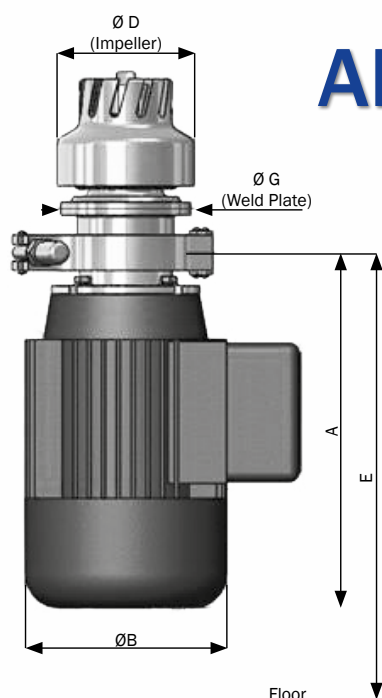
- The mixing capacities above are based on aqueous like products with a density of 1.000 Kg/m<sup>3</sup> and a viscosity of 1cp.
- Typical applications for “Gentle mixing” are where solid are held in suspension or where powders easily dissolve into the liquid.
- Typical applications for “Vigorous mixing” are where a vortex is required for blending of powders into a liquid.

# AMT-MAGNETIC MIXER



## NOMINAL DIMENSIONS IN MM

Type	A mm	B mm	$\varnothing C$ motor	$\varnothing D$ impeller	E mm	F mm	$\varnothing G$ weld plate
AMT-02	190	25	$\varnothing 90$ mm	$\varnothing 75$ mm	/	180	$\varnothing 60$ mm
AMT-04	222	30	$\varnothing 110$ mm	$\varnothing 104$ mm	32	200	$\varnothing 70$ mm
AMT-06	248	30	$\varnothing 126$ mm	$\varnothing 130$ mm	32	200	$\varnothing 85$ mm
AMT-08	291	49	$\varnothing 126$ mm	$\varnothing 154$ mm	32	250	$\varnothing 125$ mm
AMT-12	335	62	$\varnothing 158$ mm	$\varnothing 174$ mm	38	280	$\varnothing 150$ mm
AMT-20	362	75	$\varnothing 229$ mm	$\varnothing 218$ mm	32	280	$\varnothing 185$ mm
AMT-32	420	72	$\varnothing 180$ mm	$\varnothing 280$ mm	30	350	$\varnothing 250$ mm
AMT-64	600	31	$\varnothing 220$ mm	$\varnothing 290$ mm	100	470	$\varnothing 280$ mm



# AMO-HOMOGENIZER

## NOMINAL DIMENSIONS IN MM

Type	A mm	$\varnothing B$ motor	$\varnothing D$ impeller	E mm	$\varnothing G$ weld plate
AMO-04	200	$\varnothing 110$ mm	$\varnothing 74$ mm	280	$\varnothing 70$ mm
AMO-08	280	$\varnothing 140$ mm	$\varnothing 110$ mm	360	$\varnothing 125$ mm
AMO-20	320	$\varnothing 180$ mm	$\varnothing 164$ mm	400	$\varnothing 185$ mm
AMO-64	430	$\varnothing 220$ mm	$\varnothing 250$ mm	550	$\varnothing 280$ mm



# AMO-Homogenizer



## AMO Performance

The geometry of the impeller allows an excellent axial pumping flow and very low shear rate for different applications, especially for Homogenizing that mean to transport one phase or ingredient (liquid, solid, gas) into a main continuous phase (typically liquid), with which it would normally be insoluble;

- **EMULSIFYING:** the process of dispersing one liquid into a second insoluble liquid, such as oil dispersed in water. Producing a small droplet size in necessary in order to archive a stable emulsion.
- **DISSOLVING** or down sizing applications, dissolving in dispersing an insoluble or semi insoluble solid into a liquid. Down sizing is often desired to reduce the particle size of the solids to obtain a stable suspension.
- **SUSPENDING** is dispersing of solid particles into a liquid.
- **MAIN FEATURES**

**Speed range 500 to 3000 rpm** using an inverter, depending on the size of vessel and impeller-head small volumes can be achieved.

Type	Volume Vigorous / Gentle	Motor Power rating	Weight	Impeller Diameter	Weld plate Diameter / Thikness
AMO-04	10 - 150 LT.	250 w - 0,33 hp	5 Kg	Ø 74 mm	Ø 70 mm
AMO-08	150 - 600 LT.	0,75 kw - 1,00 hp	16 Kg	Ø 110 mm	Ø 125 mm
AMO-20	600 - 2.500 LT.	2,20 kw - 2,95 hp	45 Kg	Ø 164 mm	Ø 185 mm
AMO-64	3.000 - 9.000 LT.	7,5 kw - 102 hp	80 Kg	Ø 250 mm	Ø 280 mm

- The mixing capacities above are based on aqueous like products with a density of 1.000 Kg/m3 and a viscosity of 1cp.
- AMO High Speed Mixer can also be combined with a standard AMT mixer to achieve a variety of powerful results, such as collapsing vortex to prevent foaming, increased agitation, maintained suspensions at low levels etc...



**Sanitary  
flow  
equipment**

**AERRE INOX s.r.l.**

Via Gerola, 4

I-26010 Fiesco (Cremona)

Tel. +39 0374 370 828 Fax +39 0374 370 833

[www.aerreinox.it](http://www.aerreinox.it)

*Get the information you need and more at [info@aerreinox.it](mailto:info@aerreinox.it)*