

AMO - MAGNETIC HOMOGENIZER

PRODUCT DESCRIPTION

Designed complying with FDA rules for pharmaceutical and biotechnology industries. The major advantage is that enables the total integrity of the tank. The transmission with magnetic torque avoids the occurrence of cross contamination between product and external environment, a typical problem of the use of devices with mechanical seals (shafts, seals and other equipment). Suitable for high viscosities, offers great flexibility. The bottom mounting allows to keep clear the tank from any other body, such as shafts from the top and baffles, thus easing vessel access, cleaning and maintenance.

PRINCIPLE OF OPERATION

A machined pad is welded into the bottom of the vessel (usually offset respect to the central axis). This design allows to dismount the drive unit and to sterilize the tank in an autoclave, meanwhile the same drive unit can be installed and operated in another vessel. The rotor head is running by a drive unit externally mounted. Inside the rotor head there is a ring of special magnets encapsulated in a 316L ss housing. The stator come, also, in unique piece from a round bar.

PERFORMANCE

The geometry of the impeller allows an excellent axial pumping flow and very high shear rate for different applications, especially for homogenizing, that means 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 particle size necessary in order to achieve a stable emulsion.
- **Dissolving:** or downsizing application, dissolving in dispersing an insoluble or semi insoluble solid into a liquid. Downsizing 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;
 - (looking from the top, impeller always must rotate *clockwise*).
 - All product contact parts are made in 1.4404 or 1.4435;
 - All wetted surfaces are easily cleaned in place;
 - Aseptic design;
 - The rotor head runs on a special grade tungsten carbide that has been manufactured under controlled conditions to achieve the correct size, grain structure and hardness.
- (*) suggested range working speed can be achieved exceeding or decreasing 50Hz frequency.

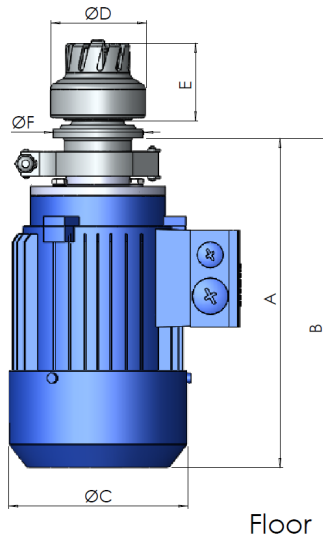


Type	Volume range	Motor Power rating	Weight	Impeller Diameter	Weld plate Diameter/Thickness
AMO-04-AC	10 – 150 L	0,55 Kw – 0,75 hp	8 Kg	Ø 74 mm	Ø 70 x 10 mm
AMO-08-AC	150 – 600 L	2,20 Kw – 2,99 hp	22 Kg	Ø 109 mm	Ø 125 x 23 mm
AMO-20-AC	600 – 2500 L	7,50 Kw – 10,2 hp	55 Kg	Ø 164 mm	Ø 185 x 23 mm
AMO-64-AC	Available on request only				

- The mixing capacities above are based on aqueous like products with a density of 1.000 Kg/m³ and a viscosity of 1cp.
- AMO Homogenizer 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...



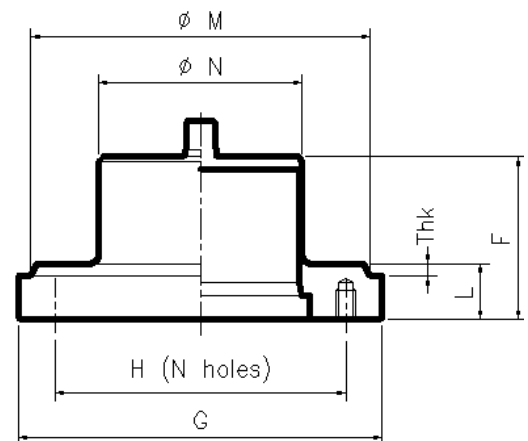
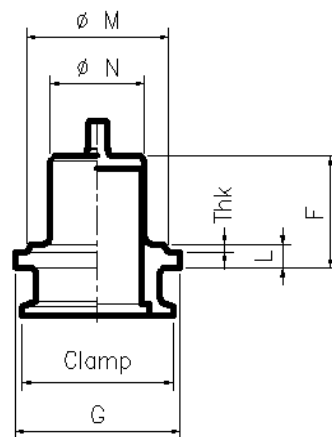
Nominal Dimensions in mm



STANDARD	A mm	B mm	Ø C motor	Ø D impeller	E mm	Ø F welding plate
AMO-04-AC Complete	235	330	140	74	61	070
AMO-08-AC Complete	340	420	175	109	81,5	125
AMO-20-AC Complete	470	550	262	164	101,5	185
AMO-64-AC Complete	Available on request only					

ATEX VERSION	A mm	Ø C motor
AMOA04-AC Complete	280	140
AMOA08-AC Complete	390	180
AMOA20-AC Complete	535	260
AMOA64-AC Complete	on request	

Welding plate dimensions



Thk: to be defined during purchase order phase

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
MM4/9/1-T	47	70	10	-	-	2"	60	40	0,500
MM8/9/1-T	67	125	23	95	8 x M8	-	115	64	1,900
MM20/9/1-T	70	185	23	160	9 x M8	-	175	124	3,550
MM64/9/1-T	137	350	50	250	8 x M12	-	340	166	11,200



General information

MATERIAL WETTED PARTS

Welding 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

WELDING PLATE

Surface roughness	Ra<0,5 micron or better, or + electropolishing
Design pressure	-1 to +10 bar(g)

Design temperature	-80 to +200°C
In compliance with	the welding plate is in compliance to PED Directive 2014/68/EU Category IV
Labelling	for full traceability purposes each welding 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

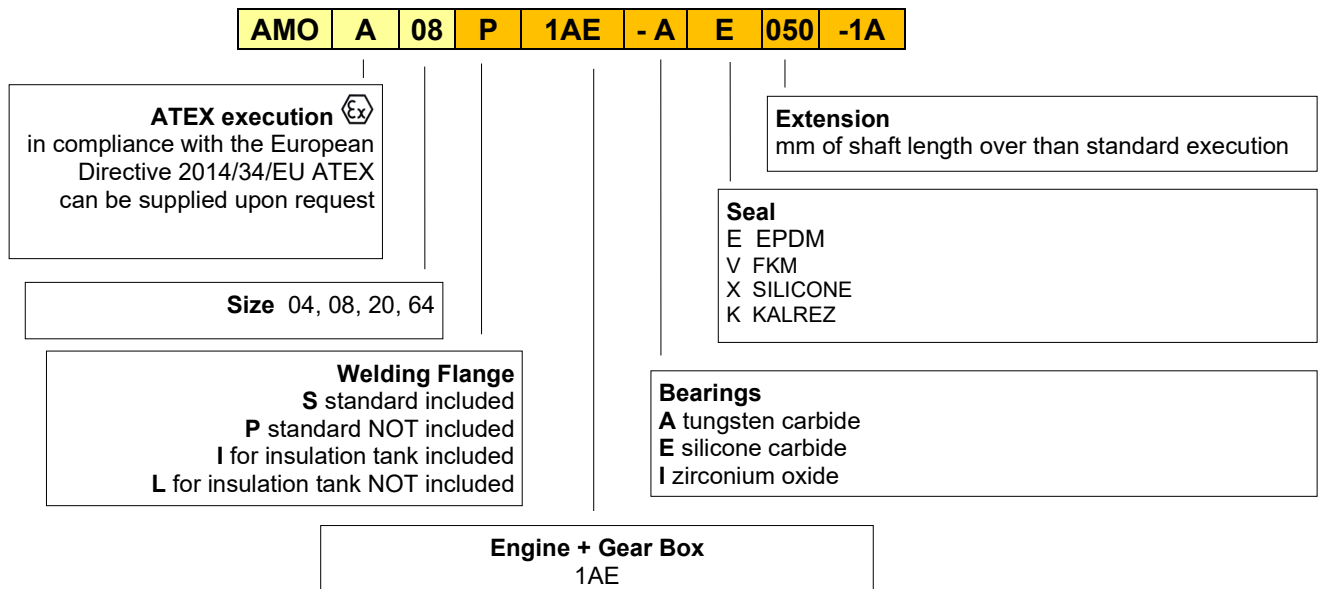
Bearings	Silicon Carbide, Zirconium Oxide
Extension	different lengths extensions available on request in compliance with the European Directive 2014/34/EU ATEX available on request

ATEX Execution

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.

Ordering information

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



General information

- Welding plate and impeller in stainless steel AISI 316L -1.4435 as standard for size AMT 04, 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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