AMO
Magnetic Homogenizer



Designed complying with the rules for pharmaceutical and biotechnology industries, our AMO aseptic magnetic homogenizer contributes to maximize product yield in a wide volume ranges of the tanks. Thanks to its technology, it enables to the total integrity of the tank.
The bottom mounting allows to keep clear the tank from any other body, such as shafts from the top and baffles, thus easening vessel access, cleaning and maintenance.

WORKING PRINCIPLE

The rotor installed inside the tank rotates due to the torque from the magnetic coupling given by the external drive unit.
This magnetic transmission 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).

PERFORMANCE

The geometry of the impeller enables excellent axial pumping flow and a very high shear rate, making it suitable for various applications. It is particularly effective for homogenization, which involves transporting one phase or ingredient (liquid, solid, or gas) into a main continuous phase (typically a liquid) with which it would normally be immiscible or insoluble.

Emulsifying: The process of dispersing one liquid into another immiscible liquid (e.g., oil dispersed in water), producing a fine droplet size necessary to achieve a stable emulsion.

Dissolving / Particle Size Reduction: Involves dispersing an insoluble or semi-insoluble solid into a liquid. This process often aims to reduce the particle size of the solids to obtain a stable and uniform suspension.

Suspending: The dispersion of solid particles into a liquid medium to prevent settling and maintain a uniform distribution throughout the fluid.

APPLICATION:

Designed for meeting the requirements of the plants in the Pharmaceutical, Food & Beverage, Cosmetics, Dairy, Fine Chemicals industries.

STANDARD CODE	Volume range Vigorous/Gentle	Motor Power rating	Weight	Impeller Diameter	Weld plate Diameter/Thickness
AMO-04P1AS-AE-1B	10 – 150 L	0.55 Kw-0.75 hp	10 Kg	Ø 74 mm	Ø 70 x10 mm
AMO-08P1AS-AE-1B	150 – 600 L	2.20 Kw-2.99 hp	26 Kg	Ø 109 mm	Ø 125 x23 mm
AMO-20P1AS-AE-1A	600 – 2500 L	7.50 Kw-10.2 hp	75 Kg	Ø 164 mm	Ø 185 x23 mm
AMO-64	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 1 cp.
- 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...

Advantages :

- Maximum process efficiency, minimal prduct loss
- Optimal flow with higher efficiency and less energy consumption
- Great flexibility in volume, viscosity, speed
- Optimized sanification due to fully drainability and design of the impeller
- Minimized downtime due to ease of maintenance

DATASHEETS

Last updates can be found on our website - www.aerreinox.it
In the interests of development of the product, we reserve the right to change the specifications without prior notice

Aerre Inox S.r.l.
Via Gerola n.4 – 26010 FIESCO (CR) Italy
Tel. +39. 0374.370828 info@aerreinox.it
www.aerreinox.it VAT IT 00962930194

Technical Information:

Material wetted parts:

Welding plate	stainless steel AISI 316L 1.4435 (04 - 08) - 1.4404 (20 - 64)
Impeller	stainless steel AISI 316L 1.4435 (04 - 08) - 1.4404 (20 - 64)
Static bearing	tungsten Carbide (standard), Silicon Carbide, Zirconium Oxide
Dinamic bearing	tungsten Carbide (standard), Silicon Carbide, Zirconium Oxide
Seals for static bearing	EPDM
Fixing screw	stainless steel AISI 316L 1.4435 (04 - 08) - 1.4404 (20 - 64)

Surface Finish Ra ≤ 0,5µm (OPTIONAL: electropolishing, other on request)

Welding plate:

Design pressure	+10 bar(g)
Design temperature	-80 to +200°C

In compliance with PED Directive 2014/68/EU

Mixer working temperature 0°C ÷ 150°C (Only for sterilization or short time)

Motor data:

Motor type	Three-phase asynchronous motor
Voltage	230/400 V AC
Frequency	10-50Hz (operated with VFD, not supplied)
Number of poles	2
Protection type	IP 55

PTC temperature probe included

Painting RAL 9010 (not available for ATEX)

Speed range 500÷3000rpm ***other on request***

Certification

3.1 material certificates (in contact) according to UNI EN 10204
FDA
USP Class VI
Optional ATEX version
other certificates on request

Labelling for full traceability purposes each welding plate and complete mixer are individually marked with part number and batch

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.

STANDARD

Mixer size	Motor power rating	Poles	Min/max rpm for mixer
AMO-04	0.55 Kw / 0.75 hp	2	500÷3000rpm
AMO-08	2.20 Kw/2.99 hp	2	500÷3000rpm
AMO-20	7.50 Kw / 10.2 hp	2	500÷3000rpm
AMO-64	on request		

ATEX

Mixer size	Motor power rating	Poles	Min/max rpm for mixer
AMOA04	0.55 Kw / 0.75 hp	2	600÷3000rpm
AMOA08	2.20 Kw/2.99 hp	2	500÷3000rpm
AMOA20	7.50 Kw / 10.2 hp	2	500÷3000rpm
AMOA64	on request		

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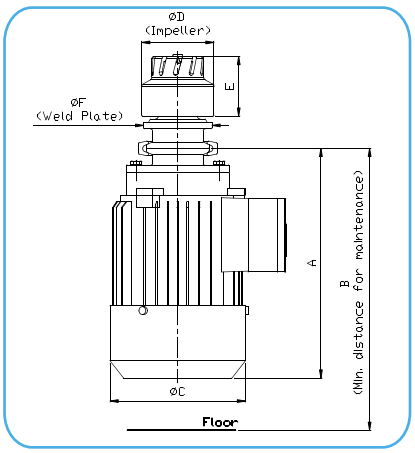
Nominal dimensions





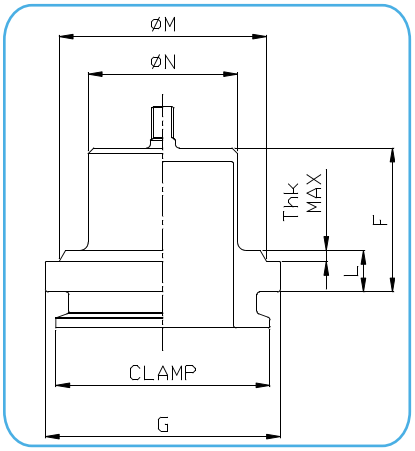
STANDARD

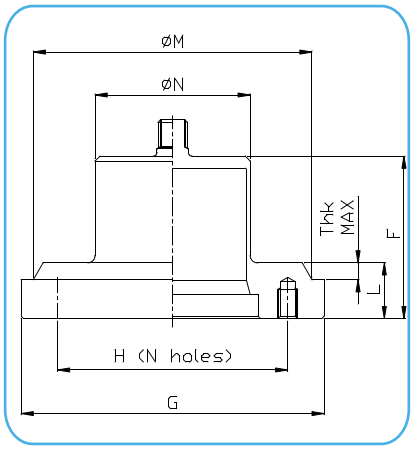
Size	A mm	B mm	Ø C motor	Ø D impeller	E mm	Ø F welding plate
AMO-04	235	310	140	74	61	070
AMO-08	396	480	180	109	81.5	125
AMO-20	520	610	262	164	101.5	185
AMO-64	Available on request only					

ATEX

Size	A mm	B mm	Ø C motor
AMOA04	302	360	140
AMOA08	391	480	180
AMOA20	531	621	260
AMOA64	Available on request only		







CODE	F mm	G mm	L mm	Thk max mm	Ø H mm	Holes qty x thread	Clamp	Ø M tank hole	Ø N	Weight Kg
MM4/9/1-T	47	70	10	4	-	-	2"	60	40	0,50
MM8/9/1-T	67	125	23	7	95	8 x M8	-	115	64	1,90
MM20/9/1-T	70	185	23	7	160	9 x M8	-	175	124	3,55
MM64/9/1-T	137	350	50	15	250	8 x M12	-	340	166	32,15

Thk : to be defined on purchase order phase
higher thickness on request

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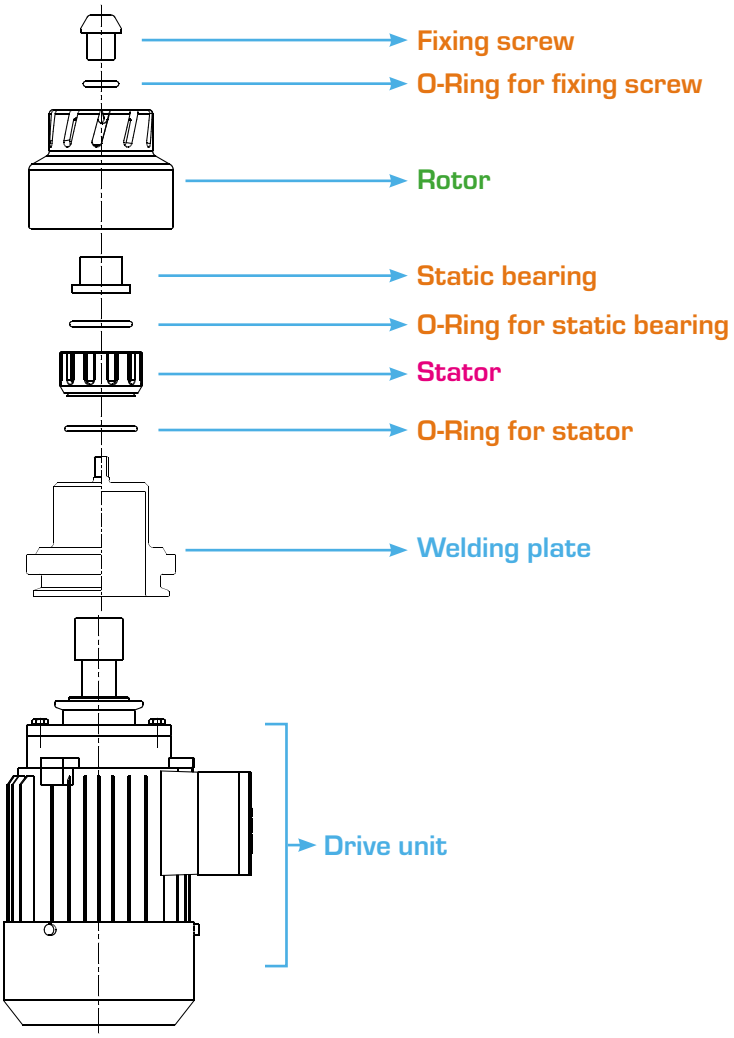
EXPLODED VIEW

Size	Rotor	Stator	KIT static bearing
AMO-04	OM04-ROT-AR	OM04-STA	KMO-04-AE-AR
AMO-08	OM08-ROT-AR	OM08-STA	KMO-08-AE-AR
AMO-20	OM20-ROT-AR	OM20-STA	KMO-20-AE-AR
AMO-64		on request	



AMO A 08 P 1AE – A E 050 – A – 1 A

- [—] Standard
- [**A**] ATEX

Size 04,08,20,64

Welding Flange
- **P** standard **NOT** included
- **L** for insulation tank **NOT** included

• Drive unit

Standard	ATEX
1AS	1AE

Bearings
- A tungsten carbide - **E** silicon carbide - **I** zirconium oxide

Seal
E EPDM **V** FKM **X** SILICONE **K** KALREZ

Extension
mm of shaft lenght over than standard execution
(if the extension is not requested, remove this part)

Optional
A speed counter
C predisposition for speed counter

1 Std. surface finish
5 Electropolish

A 1.4404 (20-64)
B 1.4435 (04-08)
other on request

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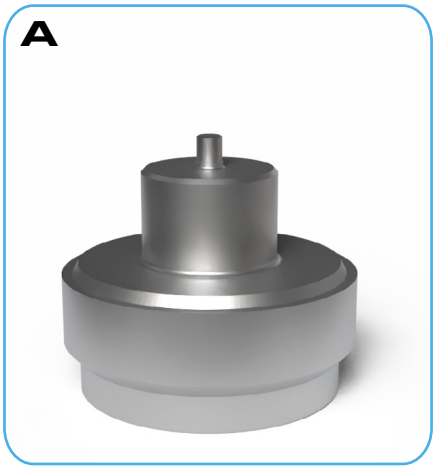
OPTIONAL

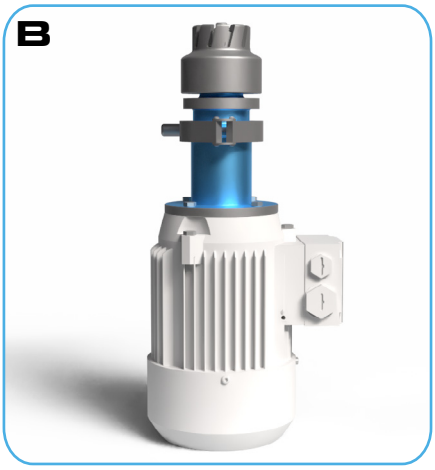
- Welding plate with higher thickness (**A**)
- Asportable welding plate
- Customized welding plate
- Shaft extension (**B**)
- Speed counter
- Stainless steel motor
- Different drive unit
- Different RPM
- Electropolishing
- Other surface finishing
- Other materials
- Mounting tool (**C**)
- Welding tools (**D**)
- Customized impellers
- ATEX

  II 2G Ex h IIB T4 Gb X
  II 2D Ex h IIIC T135°C Db X

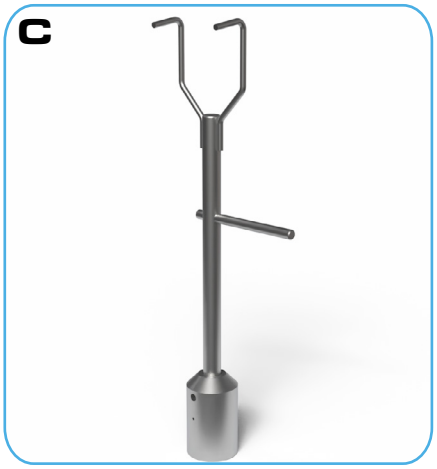
A



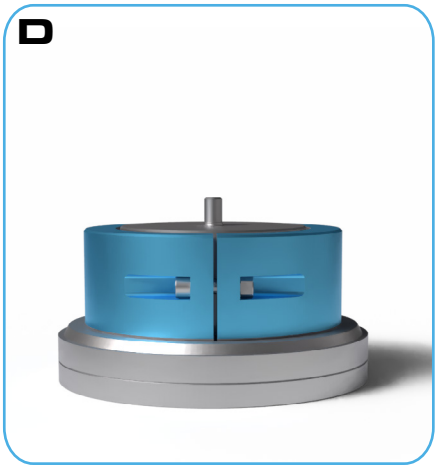
B



C



D



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