AMT-Magnetic Mixer

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 easening 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 impeller head is running by a drive unit externally mounted. Inside the impeller head there is a ring of special magnets encapsulated in a 316L ss housing. The blades are welded to this housing, creating an integral impeller head.

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
Bearing	Tungsten Carbide, Silicon Carbide, Zirconium Oxide
O-Ring	FDA and USP Class VI

WELDING PLATE

Surface roughness	Ra<0,5 micron or better
Available on request	electro polished
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.

OPTIONAL ACCESSORIES

Speed sensor	a magnetic proximity sensor can be installed on the impeller to measure its real speed rotation
Extension	different lengths extensions available on request

ATEX execution (Ex)
in compliance with the European Directive 2014/34/EU 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, dilution, 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 parts 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 portion of the cleaning fluid through the head.

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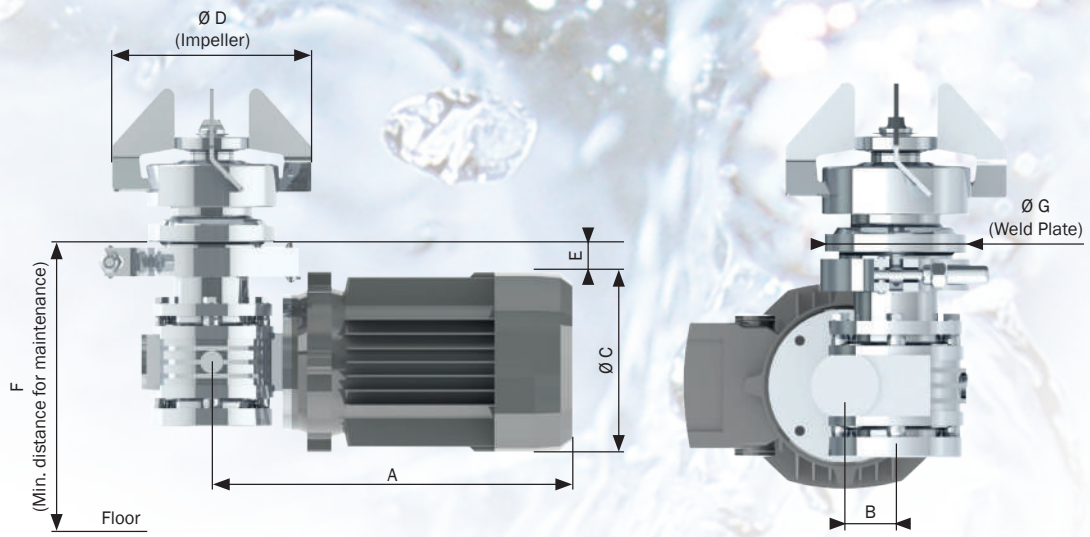
Dismounting system for magnetic coupling to take off the impeller without any magnetic attraction and without remove the motor. Dedicated for heavy, biggest size from AMT-20 to AMT-64.

Type	Volume Range Vigorous/Gentle	Motor Power rating	Weight	Impeller Diameter	Weld plate Diameter / Thickness
AMT-02-PBAM- # @ -1B	5 - 10 L	60 w – 0,08 hp	4 Kg	Ø 75 mm	Ø 60 x10 mm
AMT-04- PAAA- # @ -1B	10 - 50 L	120 w – 0,16 hp	7 Kg	Ø 105 mm	Ø 70 x10 mm
AMT-06- PAAS- # @ -1B	50 – 150 L	250 w – 0,34 hp	9 Kg	Ø 130 mm	Ø 85 x15 mm
AMT-08- PAAS- # @ -1B	150 – 500 L	0,55 kw – 0,74 hp	15 Kg	Ø 155 mm	Ø 125 x 23 mm
AMT-12- PAAS- # @ -1B	300 – 2.000 L	0,75 kw – 1,00 hp	20 Kg	Ø 175 mm	Ø 150 x 23 mm
AMT-20- PAAS- # @ -1A	1.000 – 3.000 L	1,50 kw – 2,01 hp	30 Kg	Ø 220 mm	Ø 185 x 23 mm
AMT-32- PAAS- # @ -1A	2.000 – 6.000 L	2,20 kw – 2,95 hp	45 Kg	Ø 280 mm	Ø 250 x 30 mm
AMT-64- PAAW- # @ -1A	3.000 – 20.000 L	5,50 kw – 7,38 hp	114 Kg	Ø 290 mm	Ø 278 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.

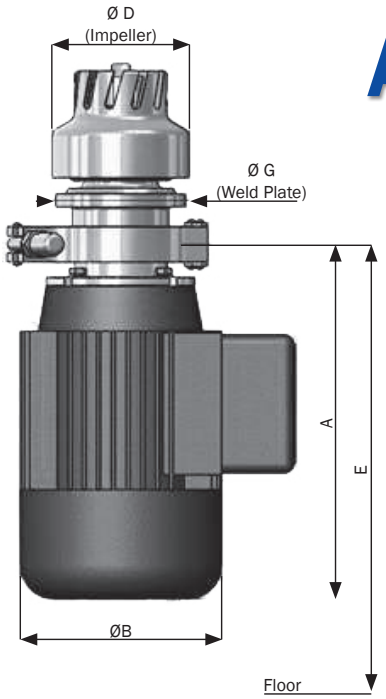
AMT-MAGNETIC MIXER



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	195	28	Ø 92 mm	Ø 75 mm	16	180	Ø 60 mm
AMT-04-AC Complete	230	30	Ø 110 mm	Ø 105 mm	12	200	Ø 70 mm
AMT-06-AC Complete	235	30	Ø 120 mm	Ø 130 mm	6	200	Ø 85 mm
AMT-08-AC Complete	290	50	Ø 140 mm	Ø 155 mm	33	250	Ø 125 mm
AMT-12-AC Complete	330	63	Ø 160 mm	Ø 175 mm	38	280	Ø 150 mm
AMT-20-AC Complete	400	75	Ø 175 mm	Ø 220 mm	30	290	Ø 185 mm
AMT-32-AC Complete	400	75	Ø 180 mm	Ø 280 mm	70	350	Ø 250 mm
AMT-64-AC Complete	590	31	Ø 220 mm	Ø 290 mm	97	450	Ø 278 mm

AMO-HOMOGENIZER



NOMINAL DIMENSIONS IN MM

Type	A mm	Ø B motor	Ø D impeller	E mm	Ø G weld plate
AMO-04-AC Complete	235	140	78	330	70
AMO-08-AC Complete	340	175	110	400	125
AMO-20-AC Complete	470	260	165	550	185
AMO-64-AC Complete	Available on request only				

AMO-Homogenizer