

Makoswater ...nature is the key

MIXERS



MX SERIES

ELECTRICAL MIXERS



FAST MIXER

- Single phase/three phase motor, IP55, 0,12kW - 4 Poles (other power supplies available upon request)
- PVC/AISI316L shaft, length 600, 800, 900, 1100 mm (other power supplies available upon request)
- PVC/AISI316L propeller, 2 blades, diameter 90 mm (other power supplies available upon request)

CARATTERISTICHE GENERALI / GENERAL FEATURES

- Suitable for liquid with very low viscosity, on tank or basins of medium capacity, for the mixing of chemical reagents or for the preparation of solutions
- Geometry of the propeller
 - Better mixing
 - Less power required
 - Aspiration of the mixed additive done directly on the bottom of the tank with smaller vibration

- Connection of the motor
 - Shaft is better balanced (reduction of the vibrations)
 - The PVC models are coated with epoxy resin for a better

chemical resistance, and with a smaller number of the components in rotation (reduction of the usury)

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- SLOW MIXER

- Single phase/three phase motor + reducer, IP55, 0,12 kW
- 4 poles (other power supplies available upon request), reducer ratio 1:7-200 rpm (standard), 1:20-70 rpm (optional)
- PVC/SS316L shaft, length 600, 800, 900, 1100 mm (other lengths available upon request)
- PVC/SS316L propeller, 2, 3, 6 blades (flat or with holes), diameter 90, 150, 220 mm (other lengths diameters upon request)

- Suitable for the sector of the water treatment for flocculants and for the preparation of polyelectrolyte
 - Geometry of the propeller
 - Blades of the helix in PVC (replacable)
 - Possibility to add other blades on the propeller for special applications (sold separately in assembly kit)
 - Possibility to add a second propeller on the shaft for a better mixing of the suspended solids (sold separately in assembly kit)
 - Connection of the motor
 - The speed of the electrical motors changes from 70 turns/min (optional) to 200 turns/min (standard)
 - The motors are completely interchangeable (0,12÷0,37 kW)
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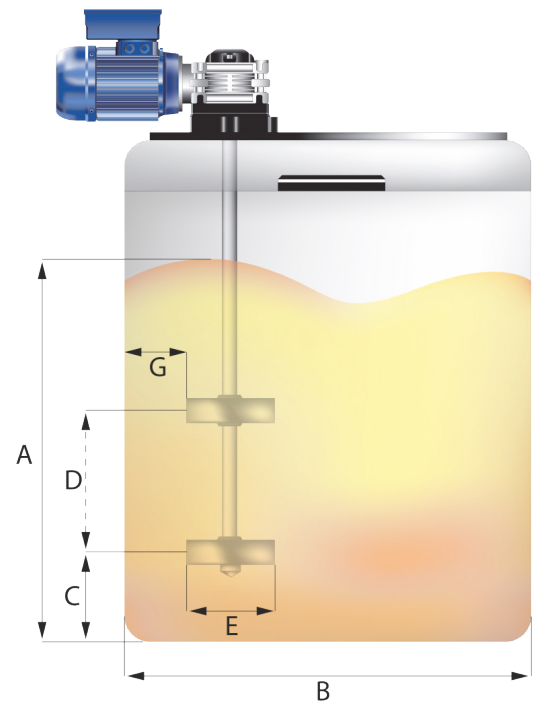
Selection of the maximum volume in the tanks

	- FAST	SLOW
- Simple mixing	5 m ³	70 m ³
- Reagent preparation	3 m ³	30 m ³
Neutralization	2 m ³	20 m ³
Sludges suspension (50 ÷ 80 g/l)	1,7 m ³	15 m ³
Lime milk (50 ÷ 80 g/l)	1,7 m ³	15 m ³
Lime milk (100 ÷ 200 g/l)	-	15 m ³
Polyelectrolyte (50 ÷ 80 g/l)	-	15 m ³

- Installation of the mixer

P.N. in case of central installation is necessary to have 3 anti-spin blades at 120° for the fast mixers and 4 blades for the slow mixers

- **A** - Liquid height
 - **B** - Tank diameter
 - **C** - Distance of the propeller from the bottom
 - **D** - Distance between the 2 propellers
 - **E** - Propeller diameter
- For $0,5 < A/B < 1,1$ - 1 - Propeller
- $C = 0,5 \div 2 \times E$
 - For $1,1 < A/B < 1,6$ - 2 Propellers
- $D = 5 \div E$ (- Fast) / $D = 2 \div E$ (- Slow)
 - - Selection of the diameter of the propeller according to the tank
- $E = B \div 0,2$ (- Fast) / $E = B \div 0,3$ (- Slow)



- Verification of the power of the motor

The mixers are supplied with an appropriate motor. For the calculation of the needed power it is necessary to multiply:

- $P_{Real} = P_{Used} \times \text{density of the liquid} \times \text{coefficient of viscosity}$ (P_{Real} = power in water)

It is necessary to verify that the power of the motor is:

- $= P_{Real} + 5\%$ (Fast) / $= P_{Real} + 25\%$ (Slow)

It is necessary to keep in mind that:

- Increasing of 50% of the speed means that you have to increase the power of ~ 3 times
- Increasing of 50% of the diameter of the propeller means that you have to increase the power of 7 times

Example:

950 rpm is necessary to use 0,25 kW

- To go to 1400 rpm it is necessary to use 1kW motor
- To use a propeller of 180 it is necessary to use 1,5 kW motor

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