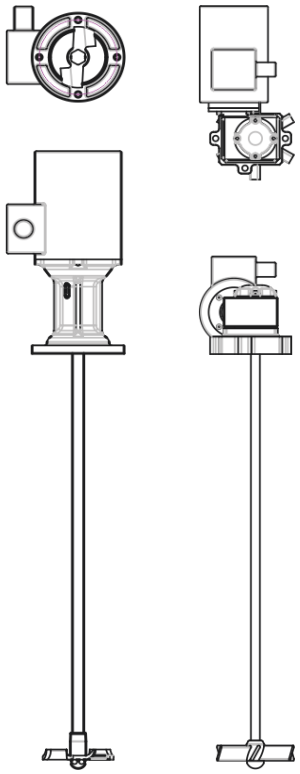
ACCESSORIES

MIXERS – Solenoid / Electromechanical Pumps



Technical characteristics

Electric mixers three-phases or single-phase, with flange attachment, for tanks SER series.

- *Slow* (200 rpm) - to be used in water treatment field to flocculation or polyelectrolyte preparation.
- *Fast* (1400 rpm) - to be used with low viscosity liquids in medium capacity tank or basin to mix or prepare chemical solution.

		STANDARD MOTOR 0,12 Kw		
		3-phase		1-phase
Hz		50	60	50
Vac	△	230	276	230
	Y	400	480	
Hp		0.16	0.19	0.16
kW		0.12	0.14	0.12
rpm		1360	1630	1400
A	△	0.76		1.0
	Y	0.44		

POSITIONING MIXER

G > **100** for **MF** series
G > **200** for **MS** series

IMPORTANT! If the mixer is centered in the tank, it is necessary to install 3 antirotation baffled positioned at 120° for **MF** series, 4 baffled positioned at 90° for **MS** series

A = liquid height
B = tank diameter
C = distance between propeller and bottom of the tank
D = distance between two propeller
E = propeller diameter

if 0.5 < **A** / **B** < 1.1

- **single propeller** **C** = 0.5 ÷ 2 x **E**

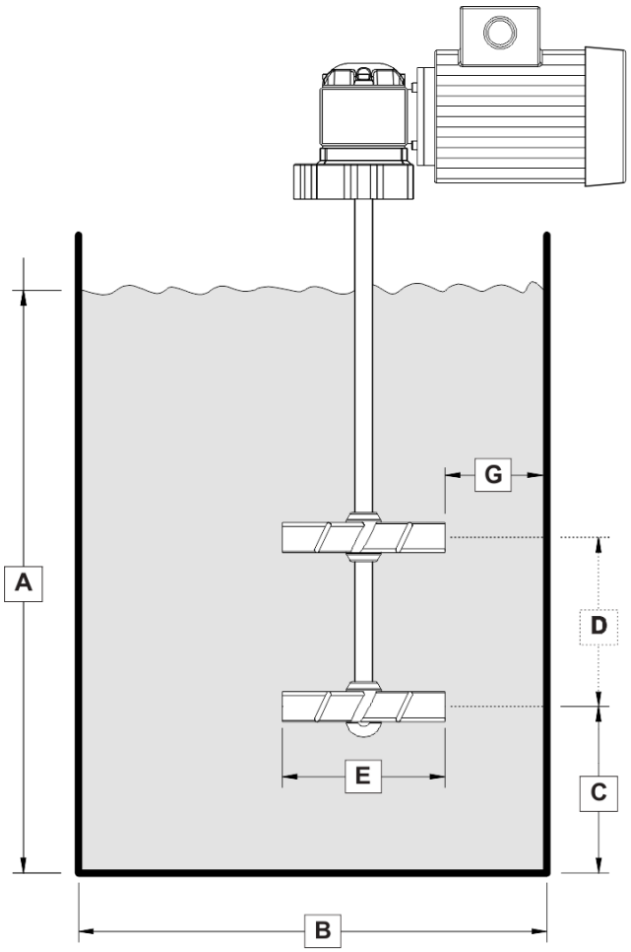
if 1.1 < **A** / **B** < 1.6

- **double propeller** **D** = 2 x **E** (**MS** series)
  D = 2 x **E** (**MF** series)

CHOICE OF THE PROPELLER/TANK

DIAMETER RATIO

E = **B** x 0.3 for **MS** series
E = **B** x 0.2 for **MF** series



ACCESSORIES

MIXERS – Solenoid / Electromechanical Pumps

MECHANICAL CHARACTERISTICS

	FAST MIXER			SLOW MIXER		
motor	Single phase / 3phases – IP55 0.12 kW – 4 poles as standard ***0.18 and 0.25 kW – 4 poles motor powers available on request***					
gear				***Reduction ratio***: **1:7** (200 rpm – 4 poles motor) **1:20** (70 rpm – 4 poles motor) ***Other reduction ratio available on request***		
shaft	***Material***: PVC / AISI 316L / PVDF			***length [mm]***: 600 / 800 / 900 / 1100		
propeller	2 blades Ø 90 mm			2 / 3 / 6 blades (filled / unfilled) Ø 90 mm Ø 150 mm Ø 220 mm		
needed power	**Power**	**Power in water**	**Real Speed**	**Power**	**Power in water**	**Real Speed***
	0.12 kW	0.07 kW	1360 rpm	0.12 kW	0.06 kW	194 rpm
	0.18 kW	0.11 kW	1350 rpm	0.18 kW	0.08 kW	193 rpm
	0.25 Kw	0.15 Kw	1350 rpm	0.25 kW	0.11 kW	193 rpm
(*) **1:7** reduction ratio	***For other motors ask to Factory***			***For other motors ask to Factory***		
spare parts available	Motor + flange Propeller Shaft			Motor + flange + support Propeller 2nd propeller Additional blades (only PVC) Shaft		

MOTOR POWER REQUIREMENT

Mixer are mounted with a motor of adequate power. To calculate the necessary motor power use the following formulas:

P_{real} = **P_{needed}** x **liquid density** x **viscosity coefficient**
(**P_{needed}** = **power in water**: read from the table of each mixer)

It is necessary to verify that motor power is:
equal to **P_{real}** + **5%** for **MF** series
equal to **P_{real}** + **25%** for **MS** series

Keep in mind that:
- if speed is increased by 50%, motor power must be increased by ~ 3 times
- if propeller diameter is increased by 50%, motor power must be increased ~ times

Example: **MF** series with **950 rpm** – propeller **Ø120** – motor **0.25 kW**
To move **1400 rpm** it is necessary to use a motor with **1 kW**
To use a propeller of **Ø180** it is necessary to choose a motor with **1.5 kW**

Power conversion formula: **hp** = **kW** x **0.75**

TABLE OF VISCOSITY COEFFICIENTS

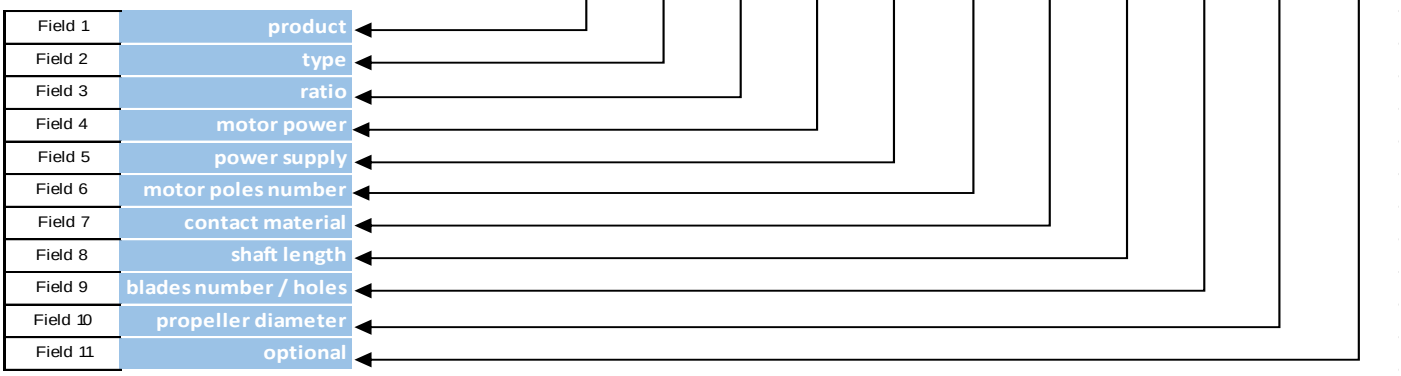
Viscosity [cPs]	***Correction coefficient***
20	*1.10*
30	*1.20*
40	*1.25*
50	*1.30*
100	*1.40*
200	*1.50*
300	*1.60*
500	*1.70*
700	*1.75*
1000	*1.85*
2000	*2.00*

ACCESSORIES

MIXERS – Solenoid / Electromechanical Pumps

MIXER KEY CODE

Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10	Field 11
M	S	1	12	T	4	A	09	D	12	00



Field 1	product	**M**	***mixer***
Field 2	type	**F**	*Fast (without reduction gear)*
		S	*Slow (with reduction gear)*
Field 3	ratio	**0**	*1:1* (**fast speed**)
		1	*1:7* **200 rpm** (with 4 poles motor)
		2	*1:20* **70 rpm** (with 4 poles motor)
Field 4	motor power	**12**	*0,12 kW* ***STANDARD***
		18	*0,25 kW*
		25	*0,18 kW*
Field 5	power supply	**M**	*single phase 230 Vac 50 Hz*
		N	*single phase 230 Vac 60 Hz*
		T	*3 phases 230 / 400 Vac*
Field 6	motor poles number	**4**	*four poles*
		....	*for other number poles number ask to Factory*
Field 7	contact material	**A**	*AISI316*
		P	*PVC*
		V	*PVDF*
		T	*PTFE*
Field 8	shaft length	**06**	*600 mm*
		08	*800 mm*
		09	*900 mm*
		11	*1100 mm*
Field 9	blades number / holes	**A**	*2 / with holes*
		B	*3 / with holes*
		C	*6 / with holes*
		D	*2 / without holes*
		E	*3 / without holes*
		F	*6 / without holes*
Field 10	propeller diameter	**09**	*90 mm*
		15	*150 mm*
		22	*220 mm*
Field 11	optional	**00**	*standard*