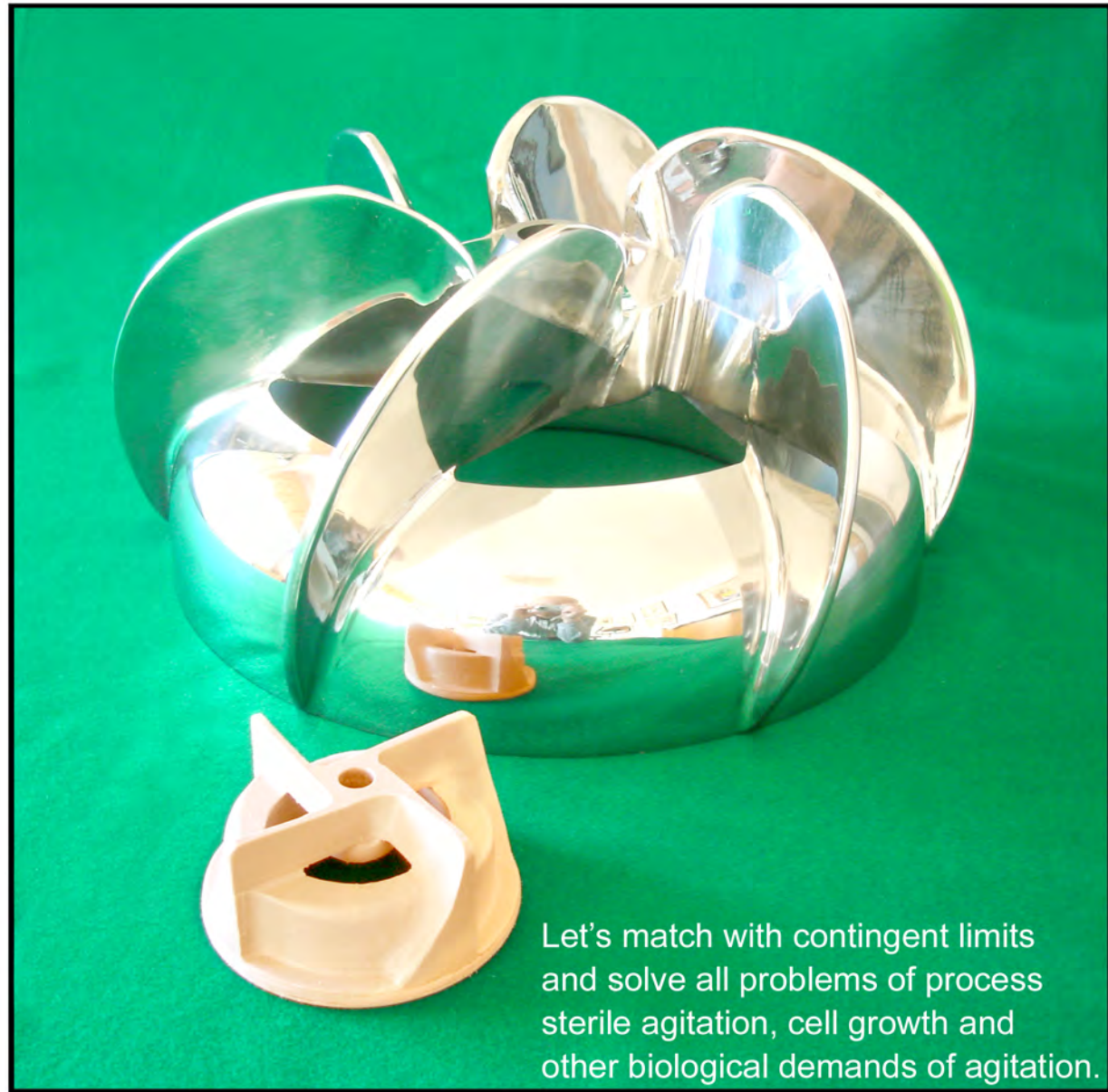


STERILE MIXERS

Here are our new entries: **STE.M.F** the biggest of the line and **STE.M.P** the smallest and cheapest of the line.



Let's match with contingent limits and solve all problems of process sterile agitation, cell growth and other biological demands of agitation.

STE.M.

as gentle as needed,
as powerful as needed,
as convenient as needed.

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STERILE MIXERS

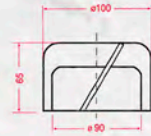
PARTICLE RELEASE FREE
TOTAL FLUSHING / STERILIZATION IN PLACE



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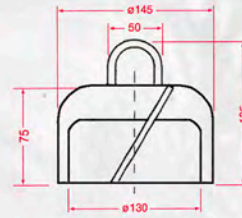
Model: **STE.M.P** ®

∅ Impeller 90 ↔ 100 mm
 Power: 0,1 ↔ 0,25 HP
 Agitable volume: 2 ↔ 100 litres
 ∅ Support flange: 61 ↔ 100 mm



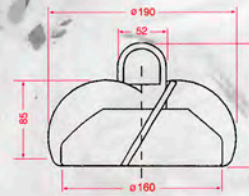
Model: **STE.M.A** ®

∅ Impeller 130 ↔ 145 mm
 Power: 0,1 ↔ 0,25 HP
 Agitable volume: 5 ↔ 200 litres
 ∅ Support flange: 90 ↔ 130 mm



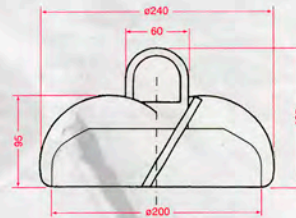
Model: **STE.M.B** ®

∅ Impeller 160 ↔ 190 mm
 Power: 0,5 ↔ 0,75 HP
 Agitable volume: 8 ↔ 500 litres
 ∅ Support flange: 114 ↔ 160 mm



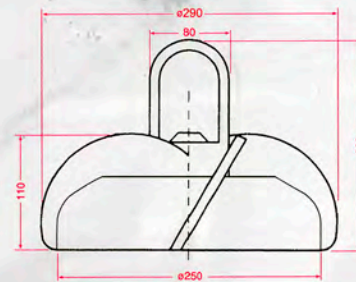
Model: **STE.M.C** ®

∅ Impeller 200 ↔ 240 mm
 Power: 0,5 ↔ 1 HP
 Agitable volume: 12 ↔ 750 litres
 ∅ Support flange: 120 ↔ 200 mm



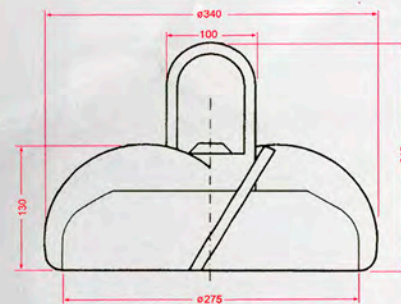
Model: **STE.M.D** ®

∅ Impeller 250 ↔ 290 mm
 Power: 1 ↔ 2,5 HP
 Agitable volume: 20 ↔ 3000 litres
 ∅ Support flange: 220 ↔ 250 mm



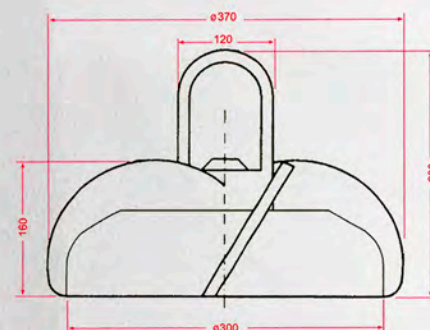
Model: **STE.M.E** ®

∅ Impeller 300 ↔ 340 mm
 Power: 2,5 ↔ 5 HP
 Agitable volume: 50 ↔ 10.000 litres
 ∅ Support flange: 250 ↔ 300 mm



Model: **STE.M.F** ®

∅ Impeller 320 ↔ 370 mm
 Power: 2,5 ↔ 5,5 HP
 Agitable volume: 70 ↔ 15.000 litres
 ∅ Support flange: 300 ↔ 320 mm



IMPELLER SHAPES AND FUNCTIONS

The standard helical impellers represented here are the best choice for most frequent applications; other shapes available are:

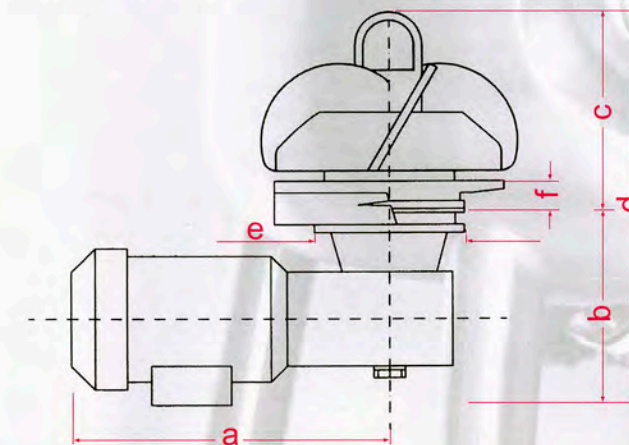
- vertical blade impellers, applied when increased centrifugal effect is specified;
- Rushton type impellers, applied for fermenters;
- Turboemulsifiers, special design magnetic high speed turbines, applied in conjunction with multibored stators to realize the required shear effect for homogenizers: **STE.M.H** ®
- Other special shapes can be provided upon request starting from the magnetic torus of all basic impellers.

MATERIALS

For impellers and support flanges: AISI 316L
 Other materials can be used for models **STE.M.P** and **STE.M.A**, upon request: PP, PEEK, MEDLIN.
 For axial bushings: Tungsten carbide TiCN hardened or Silicon Carbide. All materials are FDA approved.

INSTALLATION

STE.M. are bottom mounted; the support is centred at 1/4 of tank diameter, for most process applications. Fermentors are fit with axial Rushton type agitators. The applications of **STE.M.P** and **STE.M.A** for plastic bag reactors can be set according to service, shape of plastic bags and form of supporting devices.



| Models | Standard Dimesions (mm) | | | | | | | |
|--------|-------------------------|-----|-----|-----|------|----|-------|--------|
| STE.M. | a | b | c | d | e | f | g | h |
| P | 240 | 175 | 160 | 335 | 78* | 33 | - | - |
| A | 240 | 175 | 180 | 355 | 110* | 45 | - | - |
| B | 285 | 205 | 180 | 385 | 130* | 50 | - | - |
| C | 285 | 260 | 190 | 450 | 130* | 55 | - | - |
| D | 360 | 230 | 245 | 475 | 250 | 30 | 200** | 4M20** |
| E | 400 | 235 | 270 | 505 | 290 | 50 | 220** | 4M20** |
| F | 450 | 266 | 288 | 554 | 300 | 50 | 260** | 4M20** |

(*) DIN 11851 flange/ring coupling

(**) Bolting diameter and bolt size

GENERAL CHARACTERISTICS

All Sterile Mixers **P,A,B,C,D,E,F** are:

- **SEALLESS** and **CONTAMINATION FREE**, butt welding flanges are provided for internal and external magnetic couplings,
- with **RADIAL MAGNETIC COUPLINGS**, providing lift and torque to the impellers and avoid axial thrust bearing contact,
- **WASHABLE** and **STERILIZABLE IN PLACE**,
- **SELF FLUSHING** on the rear of the impellers and through the axial guide bearings,
- **PARTICLE RELEASE FREE**. According to **USP** prescriptions, and GMP.
- **HYDRAULICALLY OPTIMIZED**, with totally turbulent flow all over the tank, obtained even at low speeds, with **ZERO DEAD LEG**,
- **FULLY EQUIPPED** with impeller, welding flange, magnetic rotor, gearbox, electric motor, inverter, electrical control board,
- **FULLY MONITORED** with main parameters and safeguard procedures indicated on front panel board,
- **EASY TO USE** and easily dismantable for inspection,
- **FOAM FREE**, due to fluid lift on the impeller,
- Fully **CERTIFIED** and easy to **VALIDATE**, as generally not on the critical path during sterilization.

APPLICATIONS

- Final sterile pharmaceutical injectable preparations before vials fillings,
- Plasma fraction processes,
- Biofermentation, cell cultures,
- Antibiotic bio-productions and synthesis,
- Pharmaceutical synthesis,
- Vaccine productions,
- Extraction and purification by chemical processes and membrane separations,
- Perfusions, ayewash topic fluids, syrups,
- Granulation and tablet coating,
- Injectable contrast fluids for vascular radiographies.