

Submersible Mixer Type ABS RW 650

SULZER

The compact submersible mixers have been designed for a wide range of applications. The units are suitable to achieve a flow pattern in large tanks and open waters for mixing and stirring applications.

Construction

The submersible mixer is designed as a compact, water-pressure-tight unit including propeller and integrally casted installation bracket for the attachment on the square guide tube. Different versions with a bracket for vertical angle adjustment and / or a flow ring can be chosen.

The mixers are available in two standard material versions:

EC = cast iron version, CR = stainless steel version.

Maximum allowable temperature of the medium for continuous operation is 40 °C [104 °F].

Propeller

Technically optimized, axially operating 2- or 3-blade propellers with very good self-cleaning effect for vibration-free operation. The propellers are designed to achieve high thrust and therefore a high flow capacity in axial direction.

Solids deflection ring

The patented solids deflection ring protects the mechanical seal from damage by ingress of solid or fibrous matter.

Bearings

All bearings are lubricated-for-life and maintenance-free, with a calculated life time of more than 100 000 h.

Shaft sealing

Mechanical seal: Silicon carbide / Silicon carbide.

O-Rings and lip seals: NBR.

Seal monitoring

DI-system with a sensor in the oil chamber and junction box.

Temperature monitoring

Thermo Control System (TCS) with thermal sensors in the stator which open at 140 °C [284 °F].

Cable

10 m sewage resistant CSM material. Type: HO7RN.

Options

Explosion-proof version, flow ring, seals in viton, cable protection sleeve, PTC or PT 100 in the stator.

Accessories

Lifting bracket, vertical angle adjustment, shock absorber, vortex shield.

Weight

Without flow ring: 155 / 182 / 214 kg [342 / 401 / 472 lbs].

With flow ring: 173 / 200 / 232 kg [381 / 441 / 512 lbs].

Materials

| Part | EC (cast iron) | CR (stainless steel) |
|-----------------|-----------------------------------|--|
| Motor housing | EN-GJL-250, painted | Stainless steel 1.4571 (AISI 316) |
| Sliding bracket | EN-GJS-400-18 painted, polyamide | Stainless steel 1.4408 / polyamide (CF-8M) |
| Motor shaft | Stainless steel 1.4021 (AISI 420) | Stainless steel 1.4404 (AISI 316L) |
| Propeller | Stainless steel 1.4571 (AISI 316) | Stainless steel 1.4571 (AISI 316) |
| Fasteners | Stainless steel 1.4401 (AISI 316) | Stainless steel 1.4401 (AISI 316) |



60 Hz

Motor

Squirrel cage, 3-phase, 12-pole 60 Hz, insulation class F [155 °C / 311 °F], max. submergence 20 m [66 ft].

Motor data

| Motor | A 60/12 | A 90/12 | A 120/12 |
|----------------------------|---------|----------|-----------|
| Rated power [kW / hp] | 6.0 / 8 | 9.0 / 12 | 12.0 / 16 |
| Rated current at 480 V [A] | 17.5 | 24.0 | 31.4 |
| Speed [min ⁻¹] | 571 | 567 | 569 |
| Motor efficiency [%] | 75.2 | 77.6 | 78.3 |
| Power factor | 0.57 | 0.61 | 0.61 |

Mixer performance

| Hydraulic No. | Mixer power (P _p in kW [hp]) | Motor (kW [hp]) |
|-----------------|---|-----------------|
| 6521 | 3.6 [4.8] | 6.0 [8.0] |
| 6522 | 4.3 [5.8] | 6.0 [8.0] |
| 6531 | 5.5 [7.4] | 9.0 [12.0] |
| 6532 | 6.7 [9.0] | 9.0 [12.0] |
| 6533 | 7.3 [9.8] | 9.0 [12.0] |
| 6534 | 9.0 [12.0] | 12.0 [16.0] |
| 6535 | 11.5 [15.4] | 12.0 [16.0] |
| 6541* | 2.7 [3.6] | 6.0 [8.0] |
| 6542* | 3.3 [4.4] | 6.0 [8.0] |
| 6551* | 4.1 [5.5] | 9.0 [12.0] |
| 6552* | 5.0 [6.7] | 9.0 [12.0] |
| 6553* | 5.5 [7.4] | 9.0 [12.0] |
| 6554* (A 90/12) | 7.1 [9.5] | 9.0 [12.0] |
| (A 120/12) | 6.7 [9.0] | 12.0 [16.0] |
| 6555* | 8.6 [11.5] | 12.0 [16.0] |

* with flow ring

Material comparison

| Europe | USA |
|------------------------|----------------------|
| EN 1561; EN-GJL-250 | ASTM A48; Class 35 B |
| EN 1563; EN-GJS-400-18 | ASTM A536, 60-40-18 |
| 1.4021 | ASTM / AISI 420 |
| 1.4401 | ASTM / AISI 316 |
| 1.4404 | ASTM / AISI 316 L |
| DIN 17 445; 1.4408 | ASTM / AISI CF-8M |
| DIN 17 440; 1.4571 | ASTM / AISI 316 Ti |

