Submersible Mixer Type ABS XRW 900

SULZER

50 Hz

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 an open, closed bracket or a flow ring can be chosen. The mixers are available in two standard material versions; cast iron (EC), and stainless steel (CR).
Maximum allowable temperature of the medium for continuous operation is 40 °C.

Motor:
Premium Efficiency IE3, squirrel cage, 3-phase, 4-pole, 50 Hz, insulation class F (155 °C), max. submergence 20 m.

Propeller:
Technically optimized, axially operating 3-blade propellers with very good self-cleaning effect for vibration-free operation. The propellers are designed to achieve high thrusts 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 solids or fibrous matter.

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

Gearbox:
High-efficiency planetary gearbox, fatigue strength with a calculated life time more than 100 000 h.

Shaft sealing:
Mechanical seal: Silicon carbide / Silicon carbide.
O-Rings / lip seals: NBR.

Seal monitoring:
DI-system with a sensor in the junction box, oil chamber*, motor, and gearbox.

Temperature monitoring:
TCS-Thermo-Control-System with thermal sensors in the stator that open at 140 °C.

Cable:
10 m, sewage-resistant material.
Optional lenghts: 15 m, 20 m, 25 m, 30 m.

Options:
Explosion-proof version, flow ring, seals in viton, PTC or PT 100 in the stator, vibration damper, lifting bracket, additional seal (C-Cr) at motor side, EMC cable, insulation class H.

Weight:
XRW 900-PA 110/4 = 260 kg. With flow ring = 338 kg.
XRW 900-PA 150/4 = 295 kg. With flow ring = 373 kg.
XRW 900-PA 220/4 = 320 kg. With flow ring = 398 kg.

* not in Ex version.

Motor data

Motor	PA 110/4	PA 150/4	PA 220/4
Rated power (kW)	11.0	15.0	22.0
Rated current at 400 V (A)	21.7	29.9	44.8
Speed (min $^{-1}$)	246[1]	246[1]/295[2]	295[2]
Motor efficiency (%)	92.1	92.3	92.1
Power factor	0.79	0.78	0.77

1 = gear ratio i = 6; 2 = gear ratio i = 5

Mixer performance

Hydraulic No.	Mixer power P_2 in kW	Motor kW
9032	7.2	11.0
9033	8.1	11.0
9034	8.9	11.0
9035	10.6	15.0
9033	13.1	15.0
9034	14.6	22.0
9035	18.5	22.0
9052*	5.6	11.0
9053*	6.3	11.0
9054*	6.8	11.0
9055*	8.2	15.0
9053*	9.0	15.0
9054*	11.3	22.0
9055*	13.9	22.0

*with flow ring

Materials

Part	EC (cast iron)	CR (stainless steel)
Motor housing	EN-GJL-250 painted	1.4571 (AISI 316 Ti)
Sliding bracket	EN-GJL-250 painted / polyamide (CF-8M)	1.4470 / polyamide (CF-8M)
Motor shaft / Propeller shaft	1.4021 / EN-GJS-700-3	1.4021 / EN-GJS-700-3
Propeller	1.4571 (AISI 316 Ti)	1.4571 (AISI 316 Ti)
Fasteners	1.4401 (AISI 316)	1.4401 (AISI 316)