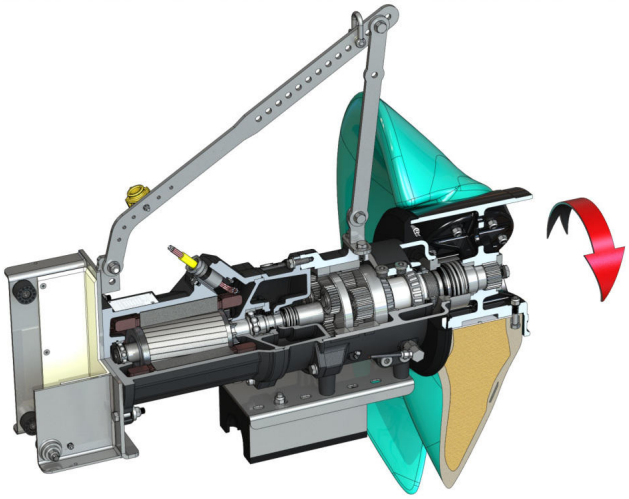
Pioneering for You

Submersible mixer

EMU TRE 321.31-4/12 E4



Unit

Power consumption at duty point $P_{1.1}$	1.30 kW
Max. thrust *F*	1300 N
Thrust to power ratio	1000 N/kW
Max. weight* *m*	220 kg
Explosion protection ATEX *ATEX*	optional
Explosion protection FM *FM*	optional
Protection class motor	IP68

Propeller

Propeller model	3-blade propeller with self-cleaning hub; clogging- and entwining-free
Nominal propeller diameter *Dnom*	2100 mm
Propeller speed *n*	31 1/min
Transmission ratio	46.500

Filling quantities and types

Filling prechamber	Gear oil CLP220
Filling volume prechamber *V*	1.00 l
Filling gear chamber	Gear oil CLP220
Fill volume gear chamber *V*	0.60 l
Filling sealing chamber	White oil
Fill volume sealing chamber *V*	1.10 l

Motor/electronics

Motor type	TE 17-4/12R (Ex)
Motor design	Submersible motor – surface-cooled
Mains connection	3~400 V, 50 Hz
Rated current I_N	4.65 A
Starting current - direct I_A	47.00 A
Starting current - star-delta I_A	15.70 A
Power consumption $P_{1\,max}$	2.25 kW
Rated power P_2	1.9 kW
Speed original *n*	1466 1/min
Motor efficiency class	IE4
Efficiency η_M	86.2 %
Power factor *cos φ*	0.69
Min. fluid temperature T_{min}	3 °C
Max. fluid temperature T_{max}	40 °C
Max. immersion depth	20 m
Insulation class	H
Max. switching frequency *t*	15 rph
min. switching break *t*	3 min
Starting torque *M*	67 Nm
Moment of inertia	0.0108 kg/m²
Motor bearings	2 grooved ball bearing

Materials

Motor housing	5.1301, EN-GJL-250
Static gaskets	FKM
Motor shaft	1.4021, X20Cr13
Seal, gear/sealing chamber	SiC/SiC, Q1Q1VGG
Gear housing	5.1301, EN-GJL-250
Planetary gear	1.7131, 16MnCr5
Hollow gear	1.5216, 17MnV6
Sun gear	1.7131, 16MnCr5
Output shaft	1.4462, X2CrNiMoN22-5-3
Seal, gear chamber/prechamber	FKM
Sealing chamber	5.1301, EN-GJL-250
Seal on the fluid side	SiC/SiC, Q1Q1VGG
Seal bushing	1.4571, X6CrNiMoTi17-12-2
Propeller hub	5.3106, EN-GJS-400-15
Propeller	VE-GFRP

Gear

Gear construction type	m 2.0 as per DIN 780-1:1977-05 /P10 (ISO54: 1996-12); sun and planetary gears case hardened and sanded, internal gear butt-jointed
Gear bearings	Six needle roller bearing (planetary), two tapered roller bearings (output shaft adjustable type), gearing permanently fixed
Service life L_{h10}	100,000 operating hours, ISO 281:2007-02

*maximum weight including accessories