

Pioneering for You

Submersible mixer

Flumen OPTI-TR 90-2.22-6/16



Unit

| | |
|---|-----------|
| Power consumption at duty point $P_{1,1}$ | 6.17 hp |
| Max. thrust F | 436.1 lbf |
| Thrust to power ratio | 70 lbf/hp |
| Max. weight* m | 374.8 lb |
| Explosion protection ATEX ATEX | optional |
| Explosion protection FM FM | optional |
| Protection class motor | IP68 |

Propeller

| | |
|--------------------------------------|--|
| Propeller model | 2-blade propeller with self-cleaning hub; clogging- and entwining-free |
| Nominal propeller diameter D_{nom} | 35.4 in (*) |
| Propeller speed n | 227 RPM |
| Transmission ratio | 4.900 |

Filling quantities and types

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|---------------------------------|-----------------|
| Filling prechamber | Gear oil CLP220 |
| Filling volume prechamber V | 0.3 US gal |
| Filling gear chamber | Gear oil CLP220 |
| Fill volume gear chamber V | 0.1 US gal |
| Filling sealing chamber | White oil |
| Fill volume sealing chamber V | 0.3 US gal |

Motor/electronics

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|-------------------------------------|---|
| Motor type | T 17-6/16R (Ex) |
| Motor design | Submersible motor – surface-cooled |
| Mains connection | 3~460 V, 60 Hz |
| Rated current I_N | 9.90 A |
| Starting current – direct I_A | 48.00 A |
| Starting current – star-delta I_A | 16.00 A |
| Power consumption $P_{1 max}$ | 8.4 hp |
| Rated power P_2 | 6.0 hp |
| Speed original n | 1100 RPM |
| Motor efficiency class | – |
| Efficiency η_M | 72.0 % |
| Power factor $\cos \varphi$ | 0.80 |
| Min. fluid temperature T_{min} | 37 °F |
| Max. fluid temperature T_{max} | 104 °F |
| Max. immersion depth | 66 ft |
| Insulation class | H |
| Max. switching frequency t | 15 rph |
| min. switching break t | 3 min |
| Starting torque M | 59.0 lbf ft |
| Moment of inertia | 0.49 lb ft ² |
| Motor bearings | 1 grooved ball bearing, 1 two-row inclined ball bearing |

Materials

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|-------------------------------|------------------------|
| Motor housing | ASTM A48, Class No. 35 |
| Static gaskets | FKM Fluoro rubber |
| Motor shaft | AISI 420 |
| Seal, gear/sealing chamber | SiC/SiC, Q1Q1VGG |
| Gear housing | ASTM A48, Class No. 35 |
| Planetary gear | AISI 5115 |
| Hollow gear | Grade 60 |
| Sun gear | AISI 5115 |
| Output shaft | AISI 329 |
| Seal, gear chamber/prechamber | FKM Fluoro rubber |
| Sealing chamber | ASTM A48, Class No. 35 |
| Seal bushing | AISI 316Ti |
| Propeller | PUR-GFRP |

Gear

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|------------------------|---|
| 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 | Three needle roller bearing (planetary), one two-row inclined ball bearing and one grooved ball bearing (output shaft) |
| Service life L_{h10} | 100,000 operating hours, ISO 281:2007-02 |

*maximum weight including accessories