

Pioneering for You

## Submersible mixer EMU TRE 216.73-4/16



### Unit

|   |            |
|---|------------|
| Power consumption at duty point $P_{1,1}$ | 4.76 hp    |
| Max. thrust $F$                           | 528.3 lbf  |
| Thrust to power ratio                     | 109 lbf/hp |
| Max. weight* $m$                          | 449.7 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 $D_{nom}$ | 63.0 in (*)  |
| Propeller speed $n$                  | 73 RPM   |
| Transmission ratio                   | 24.056   |

### Filling quantities and types

|                                 |                 |
|---------------------------------|-----------------|
| Filling prechamber              | Gear oil CLP220 |
| Filling volume prechamber $V$   | 0.3 US gal      |
| Filling gear chamber            | Gear oil CLP220 |
| Fill volume gear chamber $V$    | 0.2 US gal      |
| Filling sealing chamber         | White oil       |
| Fill volume sealing chamber $V$ | 0.3 US gal      |

### Motor/electronics

|                                  |                                    |
|----------------------------------|------------------------------------|
| Motor type                       | TE 17-4/16R (Ex)                   |
| Motor design                     | Submersible motor – surface-cooled |
| Mains connection                 | 3~230 V, 60 Hz                     |
| Rated current $I_N$              | 14.20 A                            |
| Starting current – direct $I_A$  | 120.00 A                           |
| Power consumption $P_{1 max}$    | 6.2 hp                             |
| Rated power $P_2$                | 5.4 hp                             |
| Speed original $n$               | 1747 RPM                           |
| Motor efficiency class           | IE3                                |
| Efficiency $\eta_M$              | 87.3 %                             |
| Power factor $\cos \varphi$      | 0.81                               |
| 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 $M$              | 72.3 lbf ft                        |
| Moment of inertia                | 0.32 lb ft <sup>2</sup>            |
| Motor bearings                   | 2 grooved ball bearing             |

### Materials

|                               |                        |
|-------------------------------|------------------------|
| 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 hub                 | 60-40-15               |
| 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