

Pioneering for You

## Submersible mixer EMU TR 216.46-4/8V



### Unit

|                                           |            |
|-------------------------------------------|------------|
| Power consumption at duty point $P_{1,1}$ | 1.61 hp    |
| Max. thrust $F$                           | 213.6 lbf  |
| Thrust to power ratio                     | 131 lbf/hp |
| Max. weight* $m$                          | 429.9 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 $n$                  | 46 RPM                                                                 |
| Transmission ratio                   | 38.440                                                                 |

### 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                          | T 17-4/8V (Ex)                                          |
| Motor design                        | Submersible motor – surface-cooled                      |
| Mains connection                    | 3~460 V, 60 Hz                                          |
| Rated current $I_N$                 | 6.70 A                                                  |
| Starting current – direct $I_A$     | 33.00 A                                                 |
| Starting current – star-delta $I_A$ | 11.00 A                                                 |
| Power consumption $P_{1 max}$       | 6.2 hp                                                  |
| Rated power $P_2$                   | 4.4 hp                                                  |
| Speed original $n$                  | 1680 RPM                                                |
| Motor efficiency class              | –                                                       |
| Efficiency $\eta_M$                 | 72.0 %                                                  |
| Power factor $\cos \varphi$         | 0.86                                                    |
| 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 $M$                 | 31.0 lbf ft                                             |
| Moment of inertia                   | 0.17 lb ft <sup>2</sup>                                 |
| Motor bearings                      | 1 grooved ball bearing, 1 two-row inclined 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