

|                                                                                                                                                                                                                                                                   |                     |                                                                                     |                                  |                                                                                                 |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------------------|--|
|                                                                                                                                                                                  |                     |  |                                  |                                                                                                 |  |
| <b>DATA SHEET</b>                                                                                                                                                                                                                                                 |                     |                                                                                     |                                  | <b>REV 05</b>                                                                                   |  |
| <b>TAG NUMBER</b>                                                                                                                                                                                                                                                 |                     |                                                                                     |                                  | AG11A41 & AG11B41                                                                               |  |
| <b>CUSTOMER NAME</b>                                                                                                                                                                                                                                              |                     |                                                                                     |                                  |                                                                                                 |  |
| <b>NUMBER OFF UNITS</b>                                                                                                                                                                                                                                           |                     | TWO                                                                                 |                                  |                                                                                                 |  |
| <b>Vessel Geometry</b>                                                                                                                                                                                                                                            |                     |                                                                                     |                                  | <b>Mixing Duty</b>                                                                              |  |
| Tank Shell Height                                                                                                                                                                                                                                                 |                     | 7,50 m                                                                              |                                  | Product                                                                                         |  |
| Mixer Mount Height                                                                                                                                                                                                                                                |                     | 0,25 m                                                                              |                                  | Viscosity                                                                                       |  |
| Liquid Depth                                                                                                                                                                                                                                                      |                     | 6,50 m                                                                              |                                  | S.G.                                                                                            |  |
| Length X Width                                                                                                                                                                                                                                                    |                     | 8,40 m                      8.30 m                                                  |                                  | Temperature                                                                                     |  |
| Cross Sectional Area                                                                                                                                                                                                                                              |                     | 69,72 m2                                                                            |                                  | Pressure (g)                                                                                    |  |
| Volume                                                                                                                                                                                                                                                            |                     | 453,18 m3                                                                           |                                  | Operating Cycle                                                                                 |  |
|                                                                                                                                                                                                                                                                   |                     |                                                                                     |                                  | 24 Hours/365 days                                                                               |  |
| <b>General Specification</b>                                                                                                                                                                                                                                      |                     |                                                                                     |                                  |                                                                                                 |  |
| Manufacturer                                                                                                                                                                                                                                                      |                     | Fluid Mixers Design                                                                 |                                  | Country of Origin                                                                               |  |
| Model Number                                                                                                                                                                                                                                                      |                     | 8000/B/34/37                                                                        |                                  | Duty Class                                                                                      |  |
|                                                                                                                                                                                                                                                                   |                     |                                                                                     |                                  | South Africa<br>Industrial                                                                      |  |
| <b>Electrical Motor</b>                                                                                                                                                                                                                                           |                     |                                                                                     | <b>Mixer Drive Reducer</b>       |                                                                                                 |  |
| Mount                                                                                                                                                                                                                                                             |                     | Flange, V1                                                                          |                                  | Output speed                                                                                    |  |
| Power                                                                                                                                                                                                                                                             |                     | 37,00 kW                                                                            |                                  | Installed Power                                                                                 |  |
| Speed                                                                                                                                                                                                                                                             |                     | 1460 rpm                                                                            |                                  | Reduction Rating                                                                                |  |
| Voltage & Supply                                                                                                                                                                                                                                                  |                     | 525 V- 50 Hz                                                                        |                                  | Service Factor                                                                                  |  |
| Frame Size                                                                                                                                                                                                                                                        |                     | 225M                                                                                |                                  | Reduction Ratio                                                                                 |  |
|                                                                                                                                                                                                                                                                   |                     |                                                                                     |                                  | 34,0 rpm<br>37,00 kW<br>63,64 kW<br>1,72<br>42.94 : 1                                           |  |
| <b>Shaft Design</b>                                                                                                                                                                                                                                               |                     |                                                                                     | <b>Materials of Construction</b> |                                                                                                 |  |
| Shaft Diameter                                                                                                                                                                                                                                                    |                     | O.D.: 168 mm I.D.: 146 mm                                                           |                                  | Mounting                                                                                        |  |
| Shaft Length                                                                                                                                                                                                                                                      |                     | 6,75 metres                                                                         |                                  | Seal Housing                                                                                    |  |
| Torsional Shaft Stress                                                                                                                                                                                                                                            |                     | 26,5 MPa                                                                            |                                  | Coupling                                                                                        |  |
| Bending+Torsional Stress                                                                                                                                                                                                                                          |                     | 32,0 MPa                                                                            |                                  | Shaft                                                                                           |  |
| Critical Speed                                                                                                                                                                                                                                                    |                     | 66.2 rpm / 51%                                                                      |                                  | Impeller                                                                                        |  |
| Shaft Mass (kg)                                                                                                                                                                                                                                                   |                     | 297,0 kg                                                                            |                                  | Hardware                                                                                        |  |
|                                                                                                                                                                                                                                                                   |                     |                                                                                     |                                  | CARBON STEEL<br>N/A<br>CARBON STEEL<br>C. STEEL/RUBBER<br>C. STEEL/RUBBER<br>H. TENSILE Gr. 8.8 |  |
| <b>Mixing System</b>                                                                                                                                                                                                                                              |                     |                                                                                     |                                  |                                                                                                 |  |
| <b>Mixing System</b>                                                                                                                                                                                                                                              | <b>Impeller One</b> | <b>Impeller Two</b>                                                                 | <b>Impeller Three</b>            | <b>Total System</b>                                                                             |  |
| Impeller Type                                                                                                                                                                                                                                                     | FLUID 3000          | FLUID 3000                                                                          | NONE                             | -----                                                                                           |  |
| Impeller Diameter                                                                                                                                                                                                                                                 | 2,980 m             | 2,980 m                                                                             | 0,000 m                          | -----                                                                                           |  |
| Reynolds Number                                                                                                                                                                                                                                                   | 2306437222          | 2306437222                                                                          | 0                                | -----                                                                                           |  |
| Absorbed Power                                                                                                                                                                                                                                                    | 15,05 kW            | 15,05 kW                                                                            | 0,00 kW                          | 30,10 kW                                                                                        |  |
| Pump Rate                                                                                                                                                                                                                                                         | 566,85 m3/min       | 566,85 m3/min                                                                       | 0,00 m3/min                      | 1133,70 m3/min                                                                                  |  |
| Torque                                                                                                                                                                                                                                                            | 4228,0 Nm           | 4228,0 Nm                                                                           | 0,0 Nm                           | 8455,9 Nm                                                                                       |  |
| Tip speed                                                                                                                                                                                                                                                         | 318,3 m/min         | 318,3 m/min                                                                         | 0,0 m/min                        | -----                                                                                           |  |
| Out of Balance Force                                                                                                                                                                                                                                              | 540 N               | 540 N                                                                               | 0 N                              | 1080,4 N                                                                                        |  |
| Tank Turnover Rate                                                                                                                                                                                                                                                | 1,3 /min            | 1,3 /min                                                                            | 0,0 /min                         | 2,5 /min                                                                                        |  |
| Superficial Velocity                                                                                                                                                                                                                                              | 8,1 m/min           | 8,1 m/min                                                                           | 0,0 m/min                        | 16,3 m/min                                                                                      |  |
| Specific Torque                                                                                                                                                                                                                                                   | 9,3 N/m2            | 9,3 N/m2                                                                            | 0,0 N/m2                         | 18,7 N/m2                                                                                       |  |
| Power Concentration                                                                                                                                                                                                                                               | 33,2 W/m3           | 33,2 W/m3                                                                           | 0,0 W/m3                         | 66,4 W/m3                                                                                       |  |
| Dynamic Axial Force                                                                                                                                                                                                                                               | 8087 N              | 8087 N                                                                              | 0 N                              | 16174 N                                                                                         |  |
| Bending Moment                                                                                                                                                                                                                                                    | 3646 Nm             | 2134 Nm                                                                             | 0 Nm                             | 5780 Nm                                                                                         |  |
| Impeller Mass                                                                                                                                                                                                                                                     | 492,5 kg            | 487,6 kg                                                                            | 0,0 kg                           | 980,1 kg                                                                                        |  |
| Baffle Load (0 X 0 wide)                                                                                                                                                                                                                                          | #DIV/0!             | #DIV/0!                                                                             | #DIV/0!                          | #DIV/0!                                                                                         |  |
| Velocity Gradient                                                                                                                                                                                                                                                 | 3720,2 /sec         | 3720,2 /sec                                                                         | 0,0 /sec                         | 7440,3 /sec                                                                                     |  |
| <p>Ignore Impeller Two and/or Impeller Three where "NONE" is indicated</p> <p>Impellers are numbered from bottom of shaft</p> <p>Fluid Mixers Design reserve the right to make changes to this design, according to our policy of ongoing product improvement</p> |                     |                                                                                     |                                  |                                                                                                 |  |
| <b>CONFIDENTIAL</b><br><br>ALL EQUIPMENT, APPLICATION DATA, DESIGN CALCULATIONS, TECHNICAL MATERIAL AND RELATED INFORMATION ARE STRICTLY CONFIDENTIAL AND MAY NOT BE DISCLOSED WITHOUT WRITTEN PERMISSION.                                                        |                     |                                                                                     |                                  |                                                                                                 |  |