1. Technical Specifications

**Summary of Technical Specifications**. The Goods and Related Services shall comply with following Technical Specifications and Standards

**Submersible borehole pump set No. 1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 4.8 |  |
| 3 | Head-m | 83 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 150mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type |  |

**Submersible borehole pump set No. 2**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 8 |  |
| 3 | Head-m | 65 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 150mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or similar |  |
|  |  | |  |  |

**Submersible borehole pump set No. 3**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 12 |  |
| 3 | Head-m | 94 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 150mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or similar |  |
|  |  | |  |  |

**Submersible borehole pump set No. 4**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 22 |  |
| 3 | Head-m | 80 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 200mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |
|  |  | |  |  |

**Submersible borehole pump set No. 5**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 20 |  |
| 3 | Head-m | 80 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 200mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |
|  |  | |  |  |

**Submersible borehole pump set No. 6**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 50 |  |
| 3 | Head-m | 80 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 200mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |
|  |  | |  |  |

**Submersible borehole pump set No. 7**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 50 |  |
| 3 | Head-m | 100 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 200mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |
|  |  | |  |  |

**Submersible borehole pump set No. 8**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 70 |  |
| 3 | Head-m | 100 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 200mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |
|  |  | |  |  |

**Submersible borehole pump set No. 9**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 75 |  |
| 3 | Head-m | 80 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 200mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |
|  |  | |  |  |

**Submersible borehole pump set No. 10**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 80 |  |
| 3 | Head-m | 80 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 200mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |
|  |  | |  |  |

**Submersible borehole pump set No. 11**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 75 |  |
| 3 | Head-m | 80 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 200mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |
|  |  | |  |  |

**Submersible borehole pump set No. 12**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 120 |  |
| 3 | Head-m | 76 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 250mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |

**Submersible borehole pump set No. 13**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 100 |  |
| 3 | Head-m | 75 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 200mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |

**Submersible borehole pump set No. 14**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 100 |  |
| 3 | Head-m | 70 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 200mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |

**Submersible borehole pump set No. 15**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 80 |  |
| 3 | Head-m | 60 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 200mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |
|  |  | |  |  |

**Submersible borehole pump set No. 16**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 130 |  |
| 3 | Head-m | 72 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 300mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |
|  |  | |  |  |

**Submersible borehole pump set No. 17**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 150 |  |
| 3 | Head-m | 60 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 300mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |
|  |  | |  |  |

**Submersible borehole pump set No. 18**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 140 |  |
| 3 | Head-m | 70 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 300mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |
|  |  | |  |  |

**Submersible borehole pump set No. 19**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 160 |  |
| 3 | Head-m | 80 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 200mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |
|  |  | |  |  |

**Submersible borehole pump set No. 20**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 180 |  |
| 3 | Head-m | 60 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 250mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |
|  |  | |  |  |

**Submersible borehole pump set No. 21**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 180 |  |
| 3 | Head-m | 70 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 300mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |
|  |  | |  |  |

**Submersible borehole pump set No. 22**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 180 |  |
| 3 | Head-m | 60 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 300mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |
|  |  | |  |  |

**Submersible borehole pump set No. 23**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 300 |  |
| 3 | Head-m | 44 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 300mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |
|  |  | |  |  |

**Submersible borehole pump set No. 24**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PARAMETER** | | **DESIRED** | **OFFERED** |
| **A** | **General Duty Requirements** | | | |
| 1 | Type | | Submersible borehole pump assembly |  |
| 2 | Duty Point (DP) | Flow rate-m3/h | 750 |  |
| 3 | Head-m | 61 |  |
| 4 | Maximum Pump Set Diameter(mm) Complete with cooling Jacket | | Pump set complete with cooling Jacket to fit in 400mm casing |  |
| 5 | Deviation from BEP-% | | -5% BEP +2% |  |
| 6 | Maximum Allowable installation Depth (Below Water Level)-m | | Not Less than 60m |  |
| 7 | RPM | | 4-Pole |  |
| 8 | Motor Power-kW | | Not less than 1.2XPump Power at DP |  |
| 9 | Motor Efficiency Class | | IE3 or Better |  |
| 10 | Motor Insulation Class | | Y |  |
| 11 | Voltage/Frequency V/Hz | | 3ph 400/50 |  |
| 12 | Power Factor @ DP | | Not Less than 0.88 |  |
| 13 | Combined Pump Set efficiency @ DP-% | | Not Less than 80 |  |
| **B** | **Pump Construction Material** | | | |
| 1 | Casing | | Stainless Steel/ Cast Iron |  |
| 2 | Impellor | | Stainless Steel/Bronze |  |
| 3 | Shaft | | Stainless Steel |  |
| 4 | Strainer | | Stainless Steel |  |
| 5 | Cable Guard | | Stainless Steel |  |
| 6 | Shaft Coupling | | Stainless Steel |  |
| 7 | Wear Ring | | Cast Iron/Bronze |  |
| **C** | **Construction Material for Motor** | | | |
| 1 | Casing | | Stainless Steel/Cast Iron |  |
| 2 | Rotor Shaft | | Stainless Steel |  |
| 3 | Seal Ring | | Steel/Rubber |  |
| 4 | Sand Guard | | Rubber |  |
| 5 | Winding | | Insulated Copper wire |  |
| 6 | Thrust Bearing | | Mitchel Type or Similar |  |
|  |  | |  |  |

2. Inspections and Tests

The following inspections and tests shall be performed: *[insert list of inspections and tests]*

|  |  |  |
| --- | --- | --- |
| **List of Inspections and Tests** | | |
| Line Item No | **Brief Description of Item** | **Inspection and/or Test** |
| 1 | All submersible water Pump sets | *Test Functionality* |