

## TECHNICAL SPECIFICATIONS AND OTHER ALLIED REQUIREMENTS

| SI No.                    | Description of items  | Quantity |
|---------------------------|---|----------|
| PUR/163/CAMM/CK/E/2020-21 |   |          |
| 1.                        | Supply of Water Jetting Pump<br>(Details are as per below ANNEXURE-I) | 06 Nos.  |

### 1. WARRANTY

- 1.1. Comprehensive on-site warranty for a period of one year must be provided to be effective from the date of acceptance of the items/equipment at the User's laboratory/Institute.

### Annexure I

| S. No                                   | Specification   | Value  | Remarks |
|---|---|--|---------|
| <b>Item 1: Bare Pump</b>                |   |  |         |
| 1.                                      | Working Pressure Range                                | 0-100 bar  |         |
| 2.                                      | Maximum Pressure                                      | Upto 150 bar   |         |
| 3.                                      | Flow Rate   | 35-40 LPM  |         |
| 4.                                      | Maximum inlet water temperature                       | 60 °C  |         |
| 5.                                      | RPM of Pump   | 1450-1500  |         |
| 6.                                      | Power required to obtain working pressure range       | 10-15 HP   |         |
| 7.                                      | Type of Pump  | TRIPLEX reciprocating pump with crank and connecting rod   |         |
| 8.                                      | Material of construction                              | Pump head: Brass,<br>Pistons/Plunger (Surface finish): Ceramic,<br>Pressure regulating valve: Stainless steel with plastic cage. |         |
| 9.                                      | Pressure gauge  | Glycerin filled pressure gauge indicating operating pressure of equipment in bar.  |         |
| 10.                                     | Pressure regulating valve                             | To match flow rate of 40 LPM   |         |
| 11.                                     | Duty cycle of pump                                    | Continuous duty/Intermittent   |         |
| 12.                                     | Plunger/Piston seal                                   | Nylon/Teflon/<br>rubber/standard   |         |
| 13.                                     | Required suction                                      | Flooded suction/Gravity pressure   |         |
| 14.                                     | Suction pipe with BSP fitting connection at both ends | 2 meter length   |         |
| 15.                                     | Overflow pipe with Suitable fitting at one end        | 3 meter length   |         |
| <b>Item 2: Pump with coupled Engine</b> |   |  |         |
| 1.                                      | Working Pressure Range                                | 0-100 bar  |         |
| 2.                                      | Maximum pressure                                      | Upto 150 bar   |         |
| 3.                                      | Flow rate   | 35-40 LPM  |         |
| 4.                                      | Maximum inlet water temperature                       | 60 °C  |         |
| 5.                                      | RPM of pump   | 1450-1500  |         |
| 6.                                      | Power required to obtain working pressure range       | 10-15 HP   |         |
| 7.                                      | Type of Pump  | TRIPLEX reciprocating pump with crank and connecting rod   |         |
| 8.                                      | Material of construction                              | Pump head: Brass,<br>Pistons/Plunger (surface finish): Ceramic,  |         |

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|                          |   | Pressure regulating valve:<br>Stainless steel with plastic cage.   |  |
| 9.                       | Pressure gauge  | Glycerin filled pressure gauge indicating operating pressure of equipment in bar.  |  |
| 10.                      | Pressure regulating valve                             | To match flow rate of 40 LPM   |  |
| 11.                      | Duty cycle of pump                                    | Continuous duty/Intermittent   |  |
| 12.                      | Plunger/Piston seal                                   | Nylon/Teflon/<br>rubber/standard   |  |
| 13.                      | Required suction                                      | Flooded suction/Gravity pressure   |  |
| 14.                      | Suction pipe with BSP fitting connection at both ends | 2 meter length   |  |
| 15.                      | Overflow pipe with Suitable fitting at one end        | 3 meter length   |  |
| 16.                      | Mounting type   | Skid mounting  |  |
| 17.                      | Engine type   | Diesel   |  |
| 18.                      | Engine RPM  | 1400-1800  |  |
| 19.                      | Engine Power  | 10-20 HP   |  |
| 20.                      | Engine Starter  | Electric   |  |
| 21.                      | Battery for Electric start                            | Make: Standard   |  |
| 22.                      | Engine Make   | Honda, Eicher, Mahindra or reputed brand, Standard.  |  |
| 23.                      | Fuel tank capacity                                    | 5-10 Litre minimum   |  |
| 24.                      | Engine coupling type                                  | Preferably flexible gland type along with coupling guard   |  |
| <b>Item 3: Bare Pump</b> |   |  |  |
| 1.                       | Working Pressure Range                                | 0-100 bar  |  |
| 2.                       | Maximum pressure                                      | Upto 110 bar   |  |
| 3.                       | Flow rate   | 65-70 LPM  |  |
| 4.                       | Maximum inlet water temperature                       | 60 °C  |  |
| 5.                       | RPM of pump   | 1450-1500  |  |
| 6.                       | Power required to obtain working pressure range       | 20-25 HP   |  |
| 7.                       | Type of Pump  | TRIPLEX reciprocating pump with crank and connecting rod   |  |
| 8.                       | Material of construction                              | Pump head: Brass,<br>Pistons/Plunger (Surface finish): Ceramic,<br>Pressure regulating valve: Stainless steel with plastic cage. |  |
| 9.                       | Pressure gauge  | Glycerin filled pressure gauge indicating operating pressure of equipment in bar.  |  |

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| 10. | Pressure regulating valve                                | To match 70 LPM flow rate.          |  |
| 11. | Duty cycle of pump                                       | Continuous duty /Intermittent       |  |
| 12. | Plunger/Piston seal                                      | Nylon/Teflon/<br>rubber/standard    |  |
| 13. | Required suction   | Flooded suction/Gravity<br>pressure |  |
| 14. | Suction pipe with BSP fitting<br>connection at both ends | 2 meter length                      |  |
| 15. | Overflow pipe with Suitable fitting at<br>one end        | 3 meter length                      |  |

#### Item 4: Pump with coupled Engine

|     |  |   |  |
|-----|--|---|--|
| 1.  | Working Pressure Range                                   | 0-100 bar   |  |
| 2.  | Maximum pressure   | Upto 150 bar  |  |
| 3.  | Flow rate  | 65-70 LPM   |  |
| 4.  | Maximum inlet water temperature                          | 60 °C   |  |
| 5.  | RPM of pump  | 1450-1500   |  |
| 6.  | Power required to obtain working<br>pressure range       | 20-25 HP  |  |
| 7.  | Type of Pump*  | TRIPLEX reciprocating pump<br>with crank and connecting rod   |  |
| 8.  | Material of construction                                 | Pump head: Brass,<br>Pistons/Plunger (surface<br>finish): Ceramic,<br>Pressure regulating valve:<br>Stainless steel with plastic<br>cage. |  |
| 9.  | Pressure gauge   | Glycerin filled pressure gauge<br>indicating operating pressure<br>of equipment in bar.   |  |
| 10. | Pressure regulating valve                                | To match 70 LPM flow rate.  |  |
| 11. | Duty cycle of pump                                       | Continuous duty /Intermittent   |  |
| 12. | Plunger/Piston seal                                      | Nylon/Teflon/<br>rubber/standard  |  |
| 13. | Required suction   | Flooded suction/Gravity<br>pressure   |  |
| 14. | Suction pipe with BSP fitting<br>connection at both ends | 2 meter length  |  |
| 15. | Overflow pipe with Suitable fitting at<br>one end        | 3 meter length  |  |
| 16. | Mounting type  | Skid mounting   |  |
| 17. | Engine type  | Diesel  |  |
| 18. | Engine power   | 20-30 HP  |  |
| 19. | Engine RPM   | 1400-2400   |  |

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|-----|----------------------------|--|--|
| 20. | Engine Starter             | Electric   |  |
| 21. | Battery for Electric start | Make: Standard   |  |
| 22. | Engine Make                | Honda, Eicher, Mahindra or reputed brand, Standard.      |  |
| 23. | Fuel tank capacity         | 8-10 Litre minimum                                       |  |
| 24. | Engine coupling type       | Preferably flexible gland type along with coupling guard |  |

#### Item 5: Bare Pump

|     |   |  |  |
|-----|---|--|--|
| 1.  | Working Pressure Range                                | 0-120 bar  |  |
| 2.  | Maximum pressure                                      | Upto 130 bar   |  |
| 3.  | Flow rate   | 110-120 LPM  |  |
| 4.  | Maximum inlet water temperature                       | 60 °C  |  |
| 5.  | RPM of pump   | 1450-1500  |  |
| 6.  | Power required to obtain working pressure range       | 35-40 HP   |  |
| 7.  | Type of Pump  | TRIPLEX reciprocating pump with crank and connecting rod   |  |
| 8.  | Material of construction                              | Pump head: Brass/Iron/SS, Pistons/Plunger (surface finish): Ceramic, Pressure regulating valve: Stainless steel with plastic cage. |  |
| 9.  | Pressure gauge  | Glycerin filled pressure gauge indicating operating pressure of equipment in bar.  |  |
| 10. | Pressure regulating valve                             | To match 120 LPM flow rate.  |  |
| 11. | Water inlet Steiner                                   | Metallic water inlet Steiner at the inlet to the pump, SS 304.   |  |
| 12. | Duty cycle of pump                                    | Continuous duty/Intermittent   |  |
| 13. | Plunger/Piston seal                                   | Nylon/Teflon/ rubber/standard  |  |
| 14. | Required suction                                      | Flooded suction/Gravity pressure   |  |
| 15. | Suction pipe with BSP fitting connection at both ends | 2 meter length   |  |
| 16. | Overflow pipe with Suitable fitting at one end        | 3 meter length   |  |

#### Item 6: Pump with coupled Motor

|    |   |             |  |
|----|---|-------------|--|
| 1. | Working Pressure Range                          | 0-60 bar    |  |
| 2. | Maximum pressure                                | Upto 70 bar |  |
| 3. | Flow rate                                       | 17-21 LPM   |  |
| 4. | Maximum inlet water temperature                 | 60 °C       |  |
| 5. | RPM of pump                                     | 1450-1500   |  |
| 6. | Power required to obtain working pressure range | Upto 3 HP   |  |

|     |   |   |  |
|-----|---|---|--|
| 7.  | Type of Pump  | TRIPLEX reciprocating pump with crank and connecting rod                          |  |
| 8.  | Pressure gauge  | Glycerin filled pressure gauge indicating operating pressure of equipment in bar. |  |
| 9.  | Pressure regulating valve                             | To match 21 LPM flow rate.  |  |
| 10. | Duty cycle of pump                                    | Continuous duty/Intermittent  |  |
| 11. | Suction pipe with BSP fitting connection at both ends | 2 meter length  |  |
| 12. | Overflow pipe with Suitable fitting at one end        | 3 meter length  |  |
| 13. | Motor type  | Single phase Induction motor  |  |
| 14. | Motor power   | Upto 5 HP   |  |
| 15. | Motor RPM   | 1450-1500   |  |

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