| Order | Equipment     | Specifications  |
|-------|---------------|---|
| 1     | Seismograph   | Power source: 4 alkaline D cells                                |
|       |               | Battery life: up to 30 days (24hours/day)                       |
|       |               | Dimensions: 300mm x 250mm x 180mm                               |
|       |               | Weight: 3 kg  |
|       |               | Operating temperature: -5 to 50 C                               |
|       |               | Optional modem specifications:                                  |
|       |               | Power source: separate internal 12V battery gives up to 30 days |
|       |               | remote monitoring (24hours/day)                                 |
|       |               | Battery charger: can be used to power the seismograph           |
|       |               | GSM Functions: Remote download of the Seismograph memory        |
|       |               | Remote operation of the Seismograph                             |
|       |               | Watch the Seismograph monitoring in real time                   |
|       |               | SMS alarm warnings (6 of)                                       |
|       |               | Programmable timed data upload                                  |
|       |               | Accessories: 1 x tri-axial geophone pack                        |
|       |               | 1 x CD ROM containing Vibrock Software                          |
|       |               | 1 x instruct on book  |
|       |               | 1 x USB download lead   |
|       |               | 1 x shoulder bag  |
|       |               | 1 x calibration certificate                                     |
|       |               | Options: Modem connectivity                                     |
|       |               | Text alerts (status and alarms)                                 |
|       |               | Model - V9000   |
| 2     | Environmental | Display: Large alphanumeric LCD- 4 line, 20-character display   |
|       | PM10 Air      | Operation: Four key splash proof membrane switch – menu         |
|       | Monitor       | driven  |
|       |               | Calibration: NIOSH gravimetric method                           |
|       |               | Sensing range: .001-20.0 mg/m3 .01-200.0 mg/m3                  |
|       |               | (optional)  |
|       |               | Particle size range: 0.1-100 μm                                 |
|       |               | Precision: +/- 0.003 mg/m3 (3 μm/m3)                            |
|       |               | Accuracy: +/-10% to NIOSH #0600 using ARD                       |
|       |               | Sampling flow rate: 1.0 – 4.3 liters/minute                     |
|       |               | Filter cassette: 47mm disposable EPA FRM Style                  |
|       |               | Alarm output: 90db at 3ft.                                      |
|       |               | Recording time: 1 sec. To 15 months                             |
|       |               | Sampling rate: 1 sec., 10 sec., 1 min., and 30 min.             |
|       |               | Data storage: 21,600 data points                                |
|       |               | Security code: 4-digit combination                              |
|       |               | Memory & time storage: > 10yrs                                  |
|       |               | Real-time clock & data display                                  |
|       |               | Data display: concentration in mg/m3                            |

|   | •             |  |
|---|---------------|--|
|   |               | & TWA, MAX, MIN, STEL, DATE/TIME   |
|   |               | Digital output: RS-232   |
|   |               | Operating Temperature: -10o C to 50o C   |
|   |               | Storage Temperature: -20 to 60o C  |
|   |               | Dust COMM Pro software: Windows™ driven for graphical and                        |
|   |               | data translation   |
|   |               | Power: Rechargeable battery  |
|   |               | Operating time: > 24 hours   |
|   |               | Charging time: 22 hours  |
|   |               | Humidity: 95% non-condensing   |
|   |               | Dimensions (case): 14.0" x 6.0" x 10.0"  |
|   |               | Weight: 12 lbs.  |
|   |               | Model EPAM-5000  |
| 3 | Environmental | Measuring variable Level / Distance  |
|   | Noise Device  | Power supply (18~28) VDC   |
|   | Troise Berice | Measuring range (0~5) m / (0~10) m / (0~15) mAccuracy ±0.5%                      |
|   |               | FS   |
|   |               | Blind area   |
|   |               |  |
|   |               | ≤0.4m (5m, 10m)  |
|   |               | ≤0.5m (15m)  |
|   |               | Resolution 1mm or 0.1%FS (maximum)   |
|   |               | Display Monochrome LCD with resolution of 128 * 64Current output                 |
|   |               | (4 ~ 20) mA, the output accuracy is 0.2%FSOutput load is (U-                     |
|   |               | 18V)/0.02A (U: supply voltage,2-wire) Output load is (U-                         |
|   |               |  |
|   |               | 14V)/0.02A (U: supply voltage,4-wire) Communication RS485 (4-wire)               |
|   |               | Relay output 2 groups (4-wire optional)  |
|   |               | Working temperature  |
|   |               | Instrument: (-20~+60) °C   |
|   |               | Probe: (-20~+80) ºC  |
|   |               | Ingress Protection   |
|   |               | Instrument: IP65   |
|   |               | Probe: IP68  |
|   |               | Relative humidity (10~85) %RH (no condensation)                                  |
|   |               | Language Chinese/English   |
|   |               | Installation method Threaded installation  |
|   |               | Display method   |
|   |               | With display (Optional without display. Refer to 1.5 for settings                |
|   |               | with display (Optional without display. Refer to 1.51015ettings without display) |
|   |               | parameters of remote type  |
|   |               |  |
|   |               | Measuring variable Level / Distance  |

|   | 1                 | ,  |
|---|-------------------|--|
|   |                   | Power supply (100~240) VAC,5W Max,50/60Hz; (18~28) VDC                                       |
|   |                   | Measuring range (0 $^{\sim}$ 5) m / (0 $^{\sim}$ 10) m / (0 $^{\sim}$ 15) mAccuracy ±0.5% FS |
|   |                   | Blind area   |
|   |                   | ≤0.3m (5m)   |
|   |                   | ≤0.35m (3m)<br>≤0.35m (10m)  |
|   |                   | ≤0.55m (15m)   |
|   |                   | Resolution 1mm or 0.1%FS (maximum)   |
|   |                   | Display Monochrome LCD with resolution of 128 * 64Current                                    |
|   |                   | output   |
|   |                   | Isolated (4 $^{\sim}$ 20) mA, the maximum load is 500 $\Omega$ , and the output              |
|   |                   | accuracy is 0.2%FS   |
|   |                   | Communication Isolated RS485 Modbus-RTU Communication  |
|   |                   | Protocol   |
|   |                   | Relay output   |
|   |                   | 2 groups (i.e. AC 250V/ 8A or DC 30V/ 5A) optional, 4groups                                  |
|   |                   | optional   |
|   |                   | . Working temperature  |
|   |                   | Instrument: (-20~+60) ºC   |
|   |                   | Probe: (-20~+80) ºC  |
|   |                   | Ingress Protection   |
|   |                   | Instrument: IP65   |
|   |                   | Probe: IP68  |
|   |                   | Probe cable 10m (standard configuration), 30mavailableRelative                               |
|   |                   | humidity (10~85) %RH (no condensation)   |
|   |                   | Language Portuguese/English  |
|   |                   | Installation method Wall mounted installation  |
|   |                   | Model -CK:685 Environmental Noise Measurement  |
| 4 | Submersible       | Power input: 1.3 kW  |
|   | Electric Portable | Voltage: 3 x 220 V, 400 Hz   |
|   | Pump              | Maximum current: 5.5 A   |
|   |                   | Motor protection: Built-in thermal switch  |
|   |                   | Water temperature: 0 °C to +35 °C  |
|   |                   | Discharge port: Rp 3/4   |
|   |                   | Continuous operation: Maximum 500 hours  |
|   |                   | Net weight: 2.5 kg   |
|   |                   | Diameter maximum 3 cm  |
|   |                   | Frequency converters:  |
|   |                   | Supply voltage: 1 x 200-240 V (+/- 10%), 50/60 Hz  |
|   |                   | Minimum generator size: With voltage control:  |
|   |                   | • 3.0 kVA (suitable for non-linear loads, minimal value)                                     |
|   |                   | • 4.5 kVA (suitable for non-linear loads, recommended value)                                 |
| 1 |                   | • 7.5 kVA (not suitable for non-linear loads)  |

|   | 1           |   |
|---|-------------|---|
|   |             | Nominal input current: 12.9 A                                   |
|   |             | Nominal output current: 7.0 A                                   |
|   |             | Supply voltage: 1 x 110-115 V (+/- 10%), 50/60 Hz               |
|   |             | Minimum generator size: With voltage control:                   |
|   |             | • 2.2 kVA (suitable for non-linear loads, minimal value)        |
|   |             | • 3.3 kVA (suitable for non-linear loads, recommended value)    |
|   |             | • 5.5 kVA (not suitable for non-linear loads)                   |
|   |             | Nominal input current: 21.9 A                                   |
|   |             | Nominal output current: 5.8 A                                   |
|   |             | Fuse: 10 A  |
|   |             | Power factor: 0.65  |
|   |             | Connecting cable: 3 x 1.5 mm2                                   |
|   |             | , 3 m with plug.  |
|   |             | Output voltage: 3 x 15.4 V, 25 Hz, to 3 x 235 V, 400 Hz         |
|   |             | Motor protection: Built-in overcurrent protection, set to 6.1 A |
|   |             | Acceleration time: 0 to 400 Hz: Maximum 6 sec                   |
|   |             | Deceleration time: 400 to 0 Hz: Maximum 6 sec                   |
|   |             | Enclosure class: IP66   |
|   |             | Ambient temperature: -10 °C to +40 °C                           |
|   |             | Relative air humidity: Maximum 95 %                             |
|   |             | Model -Grundfos   |
| 5 | Gas Tester  | Drop test 10 feet   |
|   |             | Battery Rechargeable li-ion or AA alkaline                      |
|   |             | Run time 20 hrs @ room temperature                              |
|   |             | Charging time <= 6 hours  |
|   |             | Operating temperature —20 C to + 50C                            |
| 6 | Water Level | Accurate: Markings each 1/100 ft. or millimeter                 |
|   | Meter       | Traceable to national standards                                 |
|   |             | Sensitivity adjustable to conductivity                          |
|   |             | Probes avoid false readings in cascading water                  |
|   |             | Reliable: Permanent laser markings                              |
|   |             | Non-stretch PVDF flat tape with stainless steel conductors      |
|   |             | Long Life: Rugged, corrosion proof components                   |
|   |             | Strong, flexible tapes  |
|   |             | Easy to splice and repair                                       |
|   |             | Model - Heron dipper-T2 1200-200M                               |

**Prepared by: HSE Department**