Title: **Quotation of Flow Switches and Oxygen Analyzer**

We intend to purchase the items as specified below:-

Sr. No.	Description	Qty. Required
1	Flow Switches Paddle Type (Nominal Dia DN 25, PN 100, Range: 4~20)	**2** (Nos.)
2	Flow Switches Paddle Type (Nominal Dia DN 50, PN 16, Range: 40~100)	**2** (Nos.)
3	Dissolved Oxygen Analyzer	**2** (Nos.)
4	Spare Membrane	**6** (Nos.)
5	Electrolyte Solution (500ml)	**1** (Pack)
6	Spare Electrode Assembly	**4** (Nos.)
7	Spare Faraday Cell	**4** (Nos.)
	Detail specifications are attached at Annexure-A.	

SPECIFICATION OF FLOW SWITCHES (PADDLE) TYPE

Item No.: 1

Quantity:	**02 NO'S.**
Flow switch type:	Paddle type.
Paddle material:	SS316L
Nominal diameter:	DN 25
Nominal Pressure:	PN 16
Range:	4 to 20 L/min
Process Connection:	Female Threaded size: 1"
Materials:	Stainless steel
Body material:	1.44 (SS316L)
Housing:	1.4305 (SS316)
Spring:	1.44 (SS 316L)
Piston:	1.44 (SS 316L)
Switch:	
Cable Length:	2.5m
Contact type/ Rating:	DPDT, 250 V / 5amp.
Ingress Protection:	IP67
Protection class:	EE xd IIC T4
Setting by decreasing of flow:	8.3L/min
Switching:	Adjustable

SPECIFICATION OF FLOW SWITCHES (PADDLE) TYPE

Item No.: 2

Quantity:	**02 NO'S.**
Flow switch type:	Paddle type
Paddle material:	SS316L
Nominal diameter:	DN 50
Nominal Pressure:	PN 16
Range:	40 to 100 L/min
Process Connection (Flanged)	DIN 2633, DN 32
Materials:	Stainless steel
Body material:	1.44 (SS316L)
Housing:	1.4305 (SS316)
Spring:	1.44 (SS 316L)
Piston:	1.44 (SS 316L)
Switch:	
Cable Length:	2.5m
Contact Type/ Rating:	DPDT, 250 V / 5amp.
Ingress Protection:	IP67
Protection class:	EE xd IIC T4
Setting by decreasing of flow:	46.0 L/min
Switching:	Adjustable

Note:

1. C&F value may also be mentioned in quotation.
2. Technical literature in English is required.
3. Recommended maintenance schedule [Preventive (PM), Predictive (PDM,)] by vendor in English is required.

SPECIFICATION OF OXYGEN ANALYZER.

Item No.: 3

OXYGEN ANALYSER:	**QUANTITY= 02 No.**
Measurement Range:	0 to 1mg/L
Automatic Calibration:	By Faraday Cell
Integrated digital flow meter	
Automatic temperature compensation	
Programmable thresholds, out put on relays	
Output:	4-20mA, with Alarm relay
Assembly:	On panel
No. of channels:	1 (One)
Operating Temperature :	0-45 ^{0}C (32 to 113 ^{0}F)
Working pressure:	From 0.1 to 10 Bar.
Output:	3 - 7 L/h
Sample input;	6mm stainless steel tube
Sample output:	PE tube 6x8mm gravitational at atmospheric pressure.
Analysis:	
Analogue output:	4-20mA galvanically isolated, assigned to measurement or to temperature linear. Bi-linear.
Temporization:	0.....999s, cutting ability: 250VAC, 3A maximum. 30VDC 0.5A minimum.
Compensation of temperature:	Automatic.
Tightness of Transmitter:	IP66/ NEMA 4X.
Indication of Error:	Cell current >999uA, temp. Sample > 45 ^{0}C

SPECIFICATION OF OXYGEN ANALYZER.

Immunity to electromagnetic disturbances:	EN 50082 et EN 50082-1
Electromagnetic emissions:	EN 50081-1 et EN50081-2
Low voltage standard:	IEC 1010-1
Electrical supply:	24 VAC- 50/60 Hz5
Connections:	Screw terminal block, 2.5mm^2
Units:	nA, uA, ppb- ug/l, ppm-mg/l , ^{0}C , ^{0}F, l/h selectable.
Operating life of membrane:	Minimum, 6 month.
Transmitter	
Display:	Indicator of unit of concentration, direct display of the concentration of cell, current in uA, Display of the sample temperature in ^{0}C/^{0}F . Display of flow in l/h, Programming by menus OR HHT.
SPARES REQUIRED:	
Item No: 4 Membrane:	06 NOs
Item No: 5 Electrolyte Solution (500ml):	01 Pack
Item No: 6 Electrode Assembly:	04Nos
Item No: 7 Faraday Cell:	04Nos

The electrode assembly should be consists of the following: Cell, Silver Anode, Gold cathode, Membrane retaining ring, Oxygen-permeable membrane, Temperature sensor, Electrolyte compartment, electrolyte filling hole, Electrode assembly retaining ring.

Note:

1. C&F value may also be mentioned in quotation.
2. Technical literature in English is required.
3. Recommended maintenance schedule [Preventive (PM), Predictive (PDM,)] by vendor in English is required.