

ANNEXURE - B

Technical Specification for Ultrasonic Flow Meter, Non-invasive clamp-on Type for the measurement of Raw water Intake Flow. **(Material Code :8004120201)**

Instruction to Vendor

1. VENDOR MUST FILL-UP THE "VENDOR'S RESPONSE COLUMN IN THE SPECIFICATION SHEET, 'A' for Acceptance and 'NA' for Not Acceptable in THE PURCHASER'S TECHNICAL Specification for Ultrasonic Flow Meter, Non-invasive clamp-on Type for the measurement of Raw water Intake Flow POINT WISE . A SEPARATE DEVIATION LIST , NAMING "ANNEXURE-B1, DEVIATION LIST" , SHOULD BE GIVEN BY THE VENDOR FOR ALL POINTS WHICH ARE NOT ACCEPTABLE TO THE VENDOR , WHERE ALL THE DEVIATIONS SHALL NECESSARILY BE EXPLAINED POINTWISE WITH OFFERED ALTERNATIVES AND RETURN BACK ALL THE SHEETS (SPECIFICATION SHEET ANNEXURE-B. AND DEVIATION LIST IF ANY) DULY SIGNED ALONG WITH THE OFFER.
2. ALL THE SPECIFICATIONS/POINTS MUST NECESSARILY BE FILLED IN. ANY POINT LEFT OUT IS DEEMED AS NOT ACCEPTED WITHOUT ANY REASON THEREOF. WHERE EVER " VENDOR TO SPECIFY" IS MENTIONED, VENDOR MUST FILL REQUIRED DETAILS.
3. RELEVANT COMPLETE TECHNICAL LITERATURE HAS TO BE ENCLOSED FOR EVERY OFFERED MODEL.
4. FOR ANY CONTRADICTORY POINTS IN THE SPECIFICATIONS AND SCOPE OF SUPPLY ,VENDOR SHALL REFER TO BCPL FOR CLARIFICATIN BEFORE SUBMITTING THE OFFER.

Sr. No. Parameter		Requirement	VENDOR'S RESPONSE		
Basic Process Details			A' for Acceptance	NA' for Not Acceptable	Remarks / Deviation
1	Process Fluid	Raw Water Intake			
2	Fluid Flow Rate	upto 2000 m3/Hour			
3	Temperature	0 to 60 Degree C			
4	Line Pressure	2-10 Kg/CM2			
5	Line Size	24"			
6	Pipe Material	MS			
Transmitter Details					
S.No	Transmitter Details	BCPL Requirement			
6	Manufacturer	Vendor to specify			
7	Model	Vendor to specify			
8	Measurement Error	3% Max			
9	Local Display	LCD with back lit , touch controlled buttons,Display of flow , Totalizers , signal strength , sound velocity and capabily to troubleshoot and comission the transmitter through display.			
10	Transmitter Housing	Di-cast Aluminum			
11	Enclosure Rating (Weather)	IP67 or better			
12	Power supply	24VDC / 110 VAC			
13	Outputs	4 to 20 mA HART			
14	Electrical Conduit Connection	1/2" NPT			
15	Self Diagnositcs feature	YES Required at Local Display			
16	Hazardous area classifications	FM Class 1 Div. 2 or equivalent			
17	Measuring Capability	Configurable			
18	Low Flow Cut-Off	Yes Required and configurable			
19	Inbuilt Database Function	Database for Various Fluids,pipe material , pipe standards , pipe diameter details			
20	Remote Configuration	Yes Required. Remote configuration with HART communicator.			

Sensor Details

Sr. No.	Sensor Details	BCPL Requirement			
21	Manufacturer	Vendor to specify			
22	Model	Vendor to specify			
23	Measuring Principle	Transit time			
24	Enclosure Material	Stainless Steel or better			
25	Sensor cable material	PVC with gland and rubber bush with water proof fixing			
26	Shock & Vibration Resistance	In accordance with IEC 68-2-6			
27	Sensor Frequency	Vendor to specify			
28	IP Rating	IP68 for submerged operation			
29	Medium temperature range	0 deg C to + 80 deg C			
30	Accessories and clamping material	Stainless Steel or better			
31	Measuring Capability	Configurable			

ANNEXURE - C

Technical Specification for Ultrasonic Flow Meter, Non-invasive clamp-on Type for the measurement of Treated Effluent water Flow. **(Material Code : 8004120211)**

Instruction to Vendor

1. VENDOR MUST FILL-UP THE "VENDOR'S RESPONSE COLUMN IN THE SPECIFICATION SHEET, 'A' for Acceptance and 'NA' for Not Acceptable in THE PURCHASER'S TECHNICAL Specification for Ultrasonic Flow Meter, Non-invasive clamp-on Type for the measurement of Treated Effluent water Flow POINT WISE . A SEPARATE DEVIATION LIST , NAMING "ANNEXURE-C1, DEVIATION LIST" , SHOULD BE GIVEN BY THE VENDOR FOR ALL POINTS WHICH ARE NOT ACCEPTABLE TO THE VENDOR , WHERE ALL THE DEVIATIONS SHALL NECESSARILY BE EXPLAINED POINTWISE WITH OFFERED ALTERNATIVES AND RETURN BACK ALL THE SHEETS (SPECIFICATION SHEET ANNEXURE-B. AND DEVIATION LIST IF ANY) DULY SIGNED ALONG WITH THE OFFER.

2. ALL THE SPECIFICATIONS/POINTS MUST NECESSARILY BE FILLED IN. ANY POINT LEFT OUT IS DEEMED AS NOT ACCEPTED WITHOUT ANY REASON THEREOF. WHERE EVER " VENDOR TO SPECIFY" IS MENTIONED, VENDOR MUST FILL REQUIRED DETAILS.

3. RELEVANT COMPLETE TECHNICAL LITERATURE HAS TO BE ENCLOSED FOR EVERY OFFERED MODEL.

4. FOR ANY CONTRADICTORY POINTS IN THE SPECIFICATIONS AND SCOPE OF SUPPLY ,VENDOR SHALL REFER TO BCPL FOR CLARIFICATIN BEFORE SUBMITTING THE OFFER.

Sr. No.	Parameter	Requirement	VENDOR'S RESPONSE		
Basic Process Details			A' for Acceptance	NA' for Not Acceptable	Remarks / Deviation
1	Process Fluid	Treated Effluent water Flow			
2	Fluid Flow Rate	upto 600 m3/Hour			
3	Temperature	0 to 60 Degree C			
4	Line Pressure	0-7 Kg/CM2			
5	Line Size	16"			
6	Pipe Material	A3A			
Transmitter Details					
Sr. No.	Transmitter Details	BCPL Requirement			
6	Manufacturer	Vendor to specify			
7	Model	Vendor to specify			
8	Measurement Error	3% Max			
9	Local Display	LCD with back lit , touch controlled buttons,Display of flow , Totalizers , signal strength , sound velocity and capability to troubleshoot and comission the transmitter through display.			
10	Transmitter Housing	Di-cast Aluminum			
11	Enclosure Rating (Weather)	IP67 or better			
12	Power supply	24VDC / 110 VAC			
13	Outputs	4 to 20 mA HART			
14	Electrical Conduit Connection	1/2" NPT			
15	Self Diagnositcs feature	YES Required at Local Display			
16	Hazardous area classifications	FM Class 1 Div. 2 or equivalent			
17	Measuring Capability	Configurable			
18	Low Flow Cut-Off	Yes Required and configurable			
19	Inbuilt Database Function	Database for Various Fluids,pipe material , pipe standards , pipe diameter details			
20	Remote Configuration	Yes Required. Remote configuration with HART communicator.			

Sensor Details

Sr. No.	Sensor Details	BCPL Requirement			
21	Manufacturer	Vendor to specify			
22	Model	Vendor to specify			
23	Measuring Principle	Transit time			
24	Enclosure Material	Stainless Steel or better			
25	Sensor cable material	PVC with gland and rubber bush with water proof fixing			
26	Shock & Vibration Resistance	In accordance with IEC 68-2-6			
27	Sensor Frequency	Vendor to specify			
28	IP Rating	IP68 for submerged operation			
29	Medium temperature range	0 deg C to + 80 deg C			
30	Accessories and clamping material	Stainless Steel or better			
31	Measuring Capability	Configurable			