

91183326\_Gwaing Wastewater Treatment Works Specifications:Energy efficiency sensor components

Quantity required	PN:20.9086.8-001.00_Description	Comply Yes/No	Photo attached Yes/No	Comment if required
1	<p align="center"><b>Controllers (4 Sensor Input) with Ethernet Connection</b></p> <p align="center"><b>Universal Transmitter - must include the following:</b></p>			
	<p><b>Sensor Inputs:</b> Capable of operating up to 4 digital sensors. (3 FDO, 1 Combination Ammonium/Nitrate Sensor)</p> <p><b>Connection:</b> Combined mechanical and electrical connection for rapid coupling to modules.</p> <p><b>Terminal Connections:</b> Includes terminal connections for connecting sensors.</p> <p><b>Fieldbuses:</b> Ethernet/IP, Modbus TCP (Internet connection and remote control)</p> <p><b>Interfaces:</b> USB interface.</p> <p><b>Relays:</b> Equipped with 3 relays.</p> <p><b>Power Supply:</b> 24 V AC/DC power supply.</p> <p><b>Protection Rating:</b> IP 67 / corresponding to NEMA 4X</p> <p><b>Warranty:</b> 3 yrs</p>			
	<p align="center"><b>Sensors</b></p>			
3	<p align="center"><b>Digital Calibration-Free Optical FDO Sensor - must include the following:</b></p>			
	<p><b>Sensor adapter cable varied lengths:</b> Sensor 1 = 80m; Sensor 2 = 50m; Sensor 3 = 15m</p> <p><b>Measuring Range:</b> 0 to 20.00 mg/l (0 to 20.00 ppm) and 0 to 200.0%.</p> <p><b>Function Monitoring:</b> Includes automatic monitoring of membrane function.</p> <p><b>Sensor Body Material:</b> Constructed from V4A stainless steel 1.4571 or 1.4435</p> <p><b>Protection Rating:</b> IP 68.</p> <p><b>Liquid:</b> MLSS</p> <p><b>Warranty:</b> 2 yrs</p>			
1	<p align="center"><b>Robust Digital Sensor for Ion-Selective Measurement of Ammonium (NH4) and Nitrate (NO3):</b></p>			
	<p><b>Sensor Components:</b></p> <p>Digital sensor for ion-selective measurement.</p> <p>Reference electrode.</p> <p>Measuring electrodes for Ammonium (NH4) and Nitrate (NO3) (in situ)</p> <p>Compensation electrode for Chloride (Cl)</p> <p>pH reference electrode</p> <p><b>Measuring Principle:</b> potentiometric / ISE</p> <p><b>Measuring Range and Resolution:</b></p> <p><b>Ammonium (NH4-N):</b></p> <p>Range: 1 to 2,000 mg/l</p> <p>Resolution: 1 mg/l</p> <p>Range: 0.1 to 100 mg/l</p> <p>Resolution: 0.1 mg/l</p> <p><b>Sensor adapter cable length:</b> Sensor 1 = 15m</p> <p><b>Liquid:</b> MLSS</p> <p><b>Warranty:</b> Sensor = 2 yrs; electrode = 1 yr</p>			
	<p align="center"><b>Mounting Hardware</b></p>			
4	<p align="center"><b>Retractable pole mount brackets.</b></p>			
	<p>Suitable for Dissolved Oxygen (D.O) and Ammonia/Nitrate sensors.</p> <p>Allows for easy installation and removal of sensors.</p> <p>Features adjustable height and angle for optimal sensor positioning.</p> <p>Constructed from durable, corrosion-resistant materials.</p> <p>Includes necessary hardware for secure attachment to poles.</p> <p>Designed for easy access to sensors for maintenance and calibration.</p> <p><b>Warranty:</b> 2 yrs</p>			
1	<p align="center"><b>Commissioning and Training - must include:</b></p>			
	<p>Guidance and Instructions for Installation of Sensor Mounting Hardware (by others)</p> <p>Guidance and Instructions for Installation of Sensors and Cabling to Transmitter (by others)</p> <p>Supply Sensor Measurement Accuracy Validation Certificate: Measuring Accuracy in laboratory standard solutions ± 5 % of measured value ± 0.2 mg/l in standard solutions</p> <p>Training on: System Operation, Sensor Calibration and General Troubleshooting (allow 6 hours)</p>			
1	<p align="center"><b>Ongoing Maintenance</b></p>			
	<p>3-monthly site visits for 2 years after installation including the following at each visit:</p> <p>Calibration of all 4 sensors</p> <p>Compilation and submission of test report to client</p> <p>Replacement of electrodes, sensor caps and any other consumables as per OEM supplier recommendations</p>			