



## WiseAir 2024: Pioneering the Next Generation of Compressed Air Intelligence

At the Forefront of Smart Sensor Technology, WiseAir Is Revolutionizing Compressed Air Measurement by Enhancing Efficiency and Championing Environmental Sustainability



# OUR COMPREHENSIVE MONITORING AND ANALYSIS SOLUTIONS



## ENERGY MONITORING SUITE

### Flow Meter

Precise measurement for optimal energy use.

### Pressure Sensor

Accurate pressure data for system integrity.

### Power Meter

Detailed power consumption tracking.

### Temperature Sensor

Critical monitoring for system efficiency.

## ADVANCED SMART MONITORING

### IoT Air Audit Suite

Integrated suite for complete air system audits.

### Cloud Remote Platform

Secure, scalable cloud platform for data analysis and insights.

### IoT Module

Smart connectivity for remote monitoring.

### Display & Data Logger

Real-time visualization and historical data logging.

## AIR / GAS QUALITY ANALYZERS

### Leak Detector

Early detection to prevent energy loss.

### Oil Vapour Sensor

Monitor gas purity and quality.

### Dew Point Sensor

Ensure optimal gas moisture levels.

### Particle Counter

Detect particulate matter in real-time.

## SMART DRAINS

### Magnetic Drains

Smart connectivity for remote monitoring.

### Electronic Drains

Smart connectivity for remote monitoring.

# OUR VALUE PROPOSITION

Comprehensive  
R&D Expertise  
Across the  
Spectrum

Integrated  
Measurement  
Solutions

Superior  
Performance  
Instruments

Exceptionally  
Economical

# OUR FACILITY

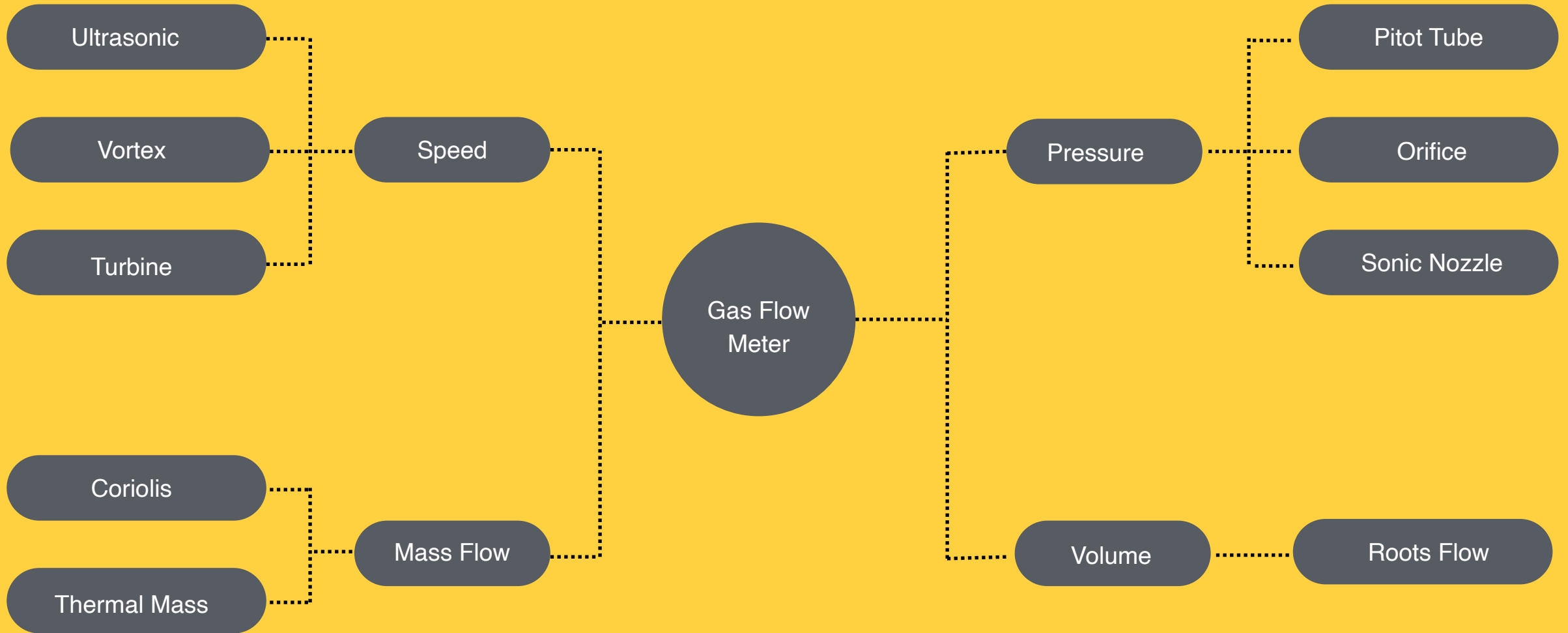
- **State-of-the-Art Calibration Lab** for precise IIoT sensor measurements.
- **Advanced Service Facility** for smart sensor maintenance and testing.
- **Innovative IIoT Sensor Manufacturing** with cutting-edge technology.
- **Strategic Location** in Coimbatore, Tamil Nadu, a hub for technological innovation.
- **Focus on Quality and Precision** in sensor production and calibration.





## PART TWO - FLOW MEASUREMENTS

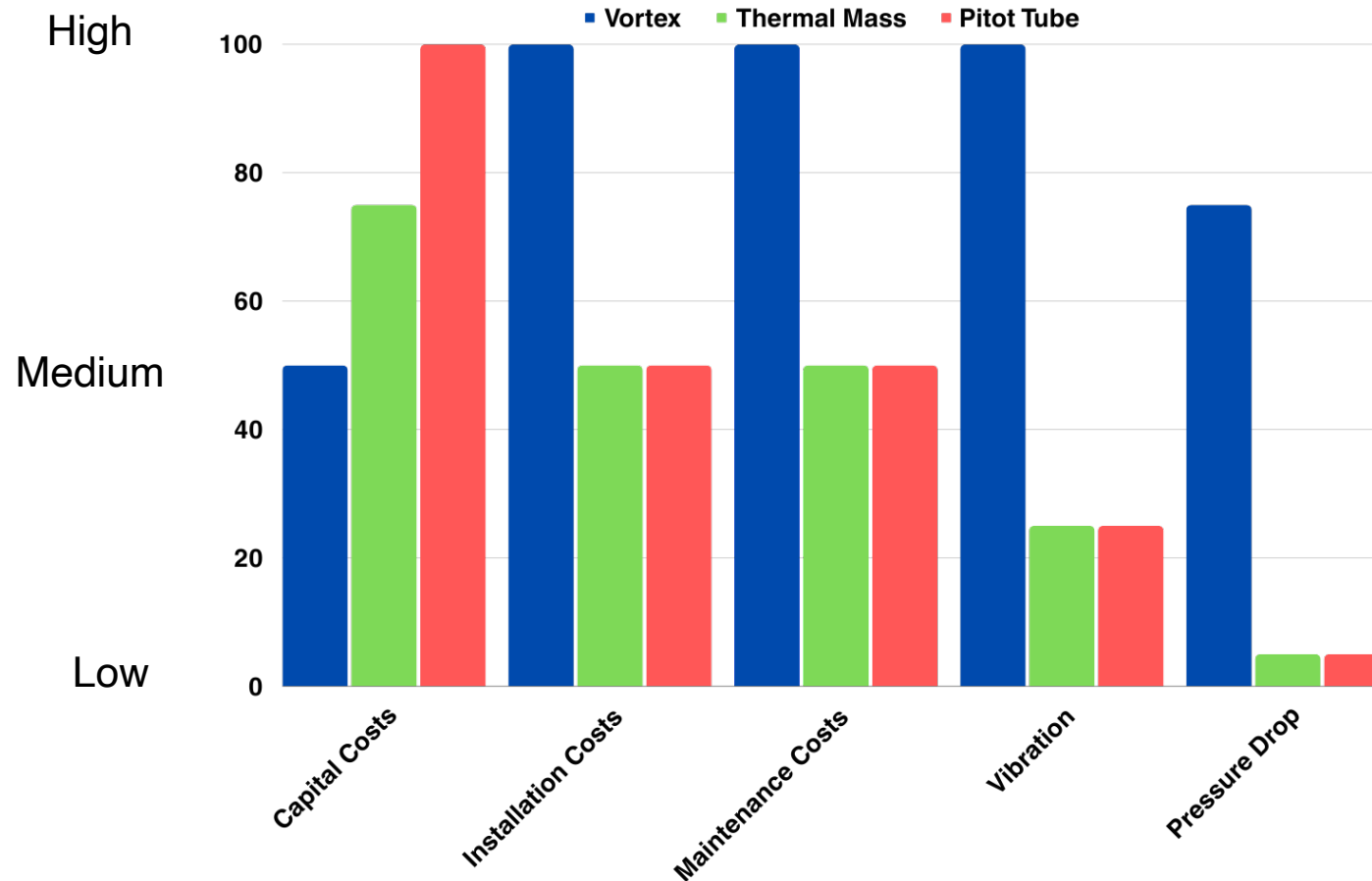
# TECHNOLOGIES FOR FLOW MEASUREMENT



## Flow Meter Selection Recommendations

### Tips :

- Ensure the sensor's flow range aligns with your system's operating flow rates for accurate measurements.
- Choose sensors with construction materials and design that can endure the specific environmental conditions of your application.
- Select sensors that provide rapid response times to accurately track dynamic flow changes within your system.
- Select sensors considering the ease of maintenance to reduce long-term service costs and system downtime.
- Focus on operational costs over initial capital expenditure, as ongoing expenses can outweigh the upfront investment over time.





# Our Range of Flow Sensors

Insertion - Thermal Mass Flow

Differential Pressure Pitot Tube

Ultrasonic



Vortex

Inline - Thermal Mass Flow

# Flow Meter Selection Recommendations

<b>Vortex</b>	<b>Thermal Mass Flow</b>	<b>Pitot Tube</b>
Lower Limit of Measurement - 13.5 Nm/s	Lower Limit of Measurement - 0.1 Nm/s	Lower Limit of Measurement - 5.0 Nm/s
Turndown Ratio - 1 : 53	Turndown Ratio - 1 : 2500	Turndown Ratio - 1 : 60

# Flow Meter Selection Recommendations

Flow Meter	Heavy Contamination In The Medium	Online Installation		Pipe > Dn300	Low Flow Application : Branch Pipe, Single Equipment Consumption	Vacuum Flow (Clean)	Blower Flow (Low Pressure And Usually Large Pipe Diameter)	Steam
		Clean Gas	Wet & Dirt Gas					
Vortex	✓							✓
Insertion Thermal Mass Flow Meter		✓		✓	✓	✓	✓	
Insertion Pitot Tube Flow Meter			✓	✓			✓	

# WISEAIR FLOW SENSORS - UNMATCHED PRECISION, UNPARALLELED PERFORMANCE



**ACCURACY**

**RELIABILITY**

**VERSATILITY**

**AFFORDABILITY**



## WAFS - 103 Differential Pressure Pitot Tube Flow Sensor



### Resists Moisture Build-up:

Features self-heating and draining capabilities to prevent condensation and contamination, offering superior protection in insertion flow meters.



### Automated Self-Calibration:

Implements online self-calibration to counteract inaccuracies due to sensor wear over time.



### Ultra-sensitive Detection:

Engineered to detect extremely low gas flows, setting new industry standards **for sensitivity.**



### Adaptive Flow Analysis:

Utilises a sophisticated algorithm that adjusts flow profiles in real-time, considering a variety of factors including pipe diameter, pressure, ambient temperature, and gas type for precise measurements.

# WAFS - 103 Differential Pressure Pitot Tube Flow Sensor

Feature	WAFS 103 Pitot Tube Flow Meter	1st Nearest Competitor	2nd Nearest Competitor
Range	5~300 Nm/s with a turndown ratio of 1:60, ensuring accurate measurement even at low flow rates, ideal for VSD compressors.	20~200 Nm/s with a turndown ratio of 1:10	20~250 Nm/s with a turndown ratio of 1:12.5
Installation	Insertion type	Insertion type	Insertion type
Vibration	Absent	Absent	Absent
Pressure Loss	Minimal	Minimal	Minimal
Accuracy	Features an auto-calibration function that compensates for drift due to pressure, temperature, and aging to deliver precise measurements.	Calibration required only at initial setup; subsequent changes in pressure, temperature, and aging are not auto-compensated in real time.	
Contamination Prevention	Integrated anti-condensation and pollution solution with auto-drain and auto-heating functions, powered by >24W at 24V.	Filter required to prevent condensation; filter replacement needed regularly.	Lacks anti-condensation function; factory return required for repairs.
Flow Profile	Employs a sophisticated flow profile model that dynamically calculates the profile factor based on pipe diameter, pressure, temperature, and gas type for enhanced accuracy.	Utilizes a fixed coefficient for flow profile factor, which does not account for variable conditions.	



**Complete Digital Signal**

**Processing:** Eliminates zero drift for the highest precision in measurements.



**Ultra-Low Measurement**

**Capability:** Exceptional 1:2500 turndown ratio for accurate readings at minimal flow rates.



**Extensive Calibration:** More than 30 calibration points to address and correct non-linear measurement discrepancies.



**Smart Diagnostic Features:** Proactive detection systems to prevent sensor damage due to contamination.



**Adaptive Flow Profile Analysis:** Advanced model that dynamically adjusts to varying flow conditions.

# WAFS Series Thermal Mass Flow Sensor



Product	WAFS - 104 / 5 / 6 / 7	1st Nearest Competitor	2nd Nearest Competitor
Range	0.1~120 Nm/s or 0.1~250 Nm/s - Leading range offering in the market	0.5~150 Nm/s - Standard range for general use	Variable ranges: 0.6~60 Nm/s, 0.9~90 Nm/s, 1.2~120 Nm/s, 1.5~150 Nm/s
Technology	Fully digital: No drift and unaffected by pressure/temperature changes. Advanced flow profile mathematics. Over 30 calibration points for precision tuning.	Analog bridge: Zero calibration in lab conditions with potential drift under variable conditions. Fixed flow profile coefficient. 3~10 calibration points.	Details not provided





- ◆ **Thermal Mass Flow Measurement:** Offers independent flow measurement unaffected by temperature and pressure changes, with integrated temperature and pressure measurement capabilities.
- ◆ **Ultra Wide 1:100 Turndown Ratio:** Provides exceptional range flexibility, enabling accurate measurement over a wide range of flow rates.
- ◆ **Full Digital Signal Processing:** Unlike traditional analog bridge designs, this flow meter ensures more accurate readings and a broader measuring range due to its digital processing.
- ◆ **Stainless Steel Construction with In-built Pressure Sensor:** Durable, complete stainless steel body construction ensures longevity, complemented by an integrated pressure sensor for comprehensive monitoring.
- ◆ **Standard RS485 Modbus RTU Interface:** Facilitates easy integration into existing systems with a standard digital communication protocol, ensuring reliable data transmission.

# WAFS - 110x Vortex Flow Meter Advantage



## Dual-Function Vortex Sensor:

Incorporates one sensor for flow detection and another for vibration monitoring.



## Advanced Anti-Vibration and EMC

**Resistance:** Offers a robust full-spectrum anti-vibration feature, maintaining accuracy even at minimal flow rates.



## Comprehensive Signal Analysis:

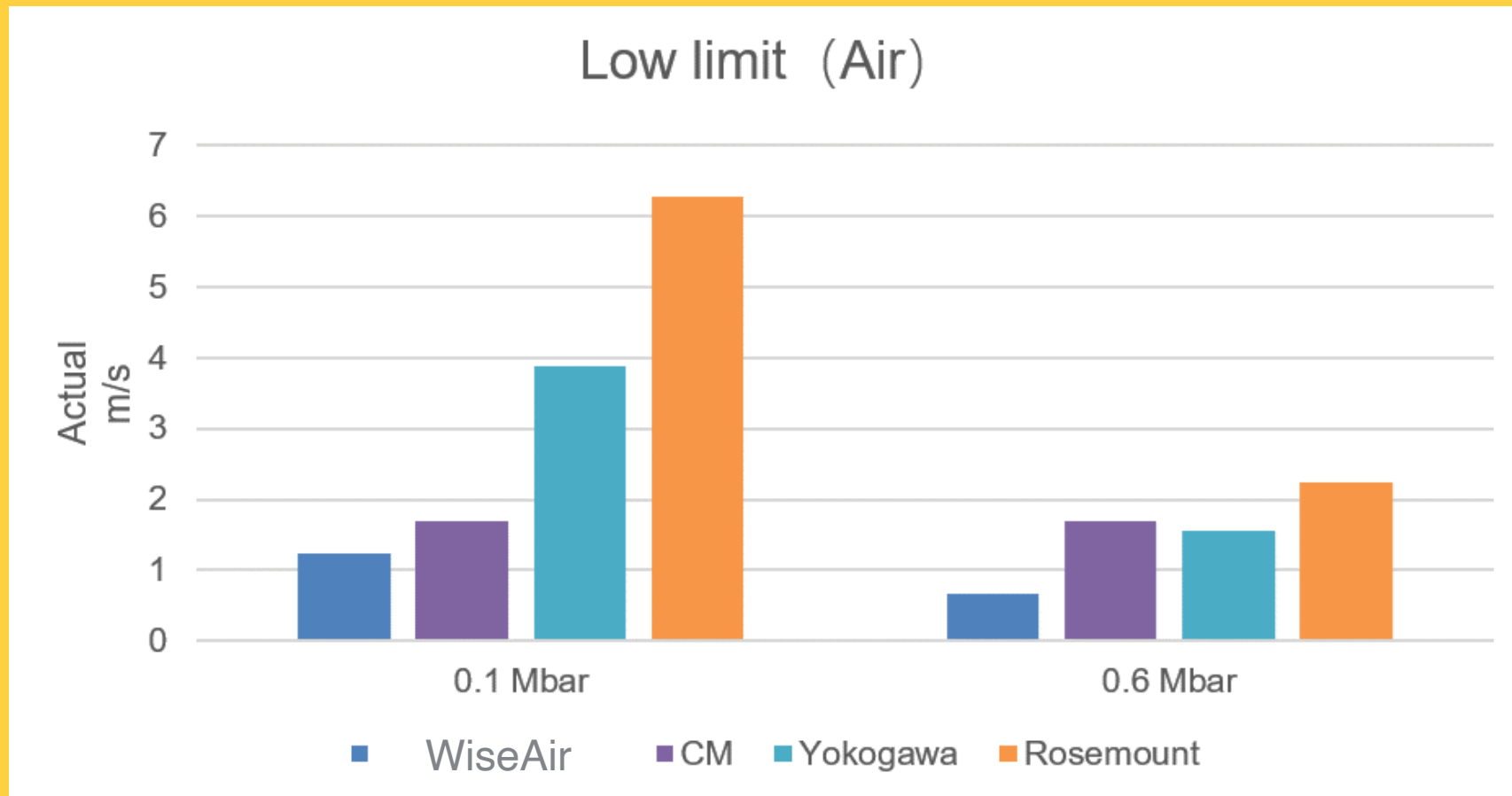
Equipped with a high-performance Digital Signal Processor (DSP) that discerns between flow signals and vibration noise.

**1.5**<sub>ms</sub>

## Superior Lower Measurement

**Limit:** Capable of detecting very low gas flow rates with high precision.

# WAFS - 110x Vortex Flow Meter Advantage





**Non-Invasive Technology:** Offers contactless installation, eliminating the need for pipe modification and ensuring there's no contact with the fluids, which prevents contamination.



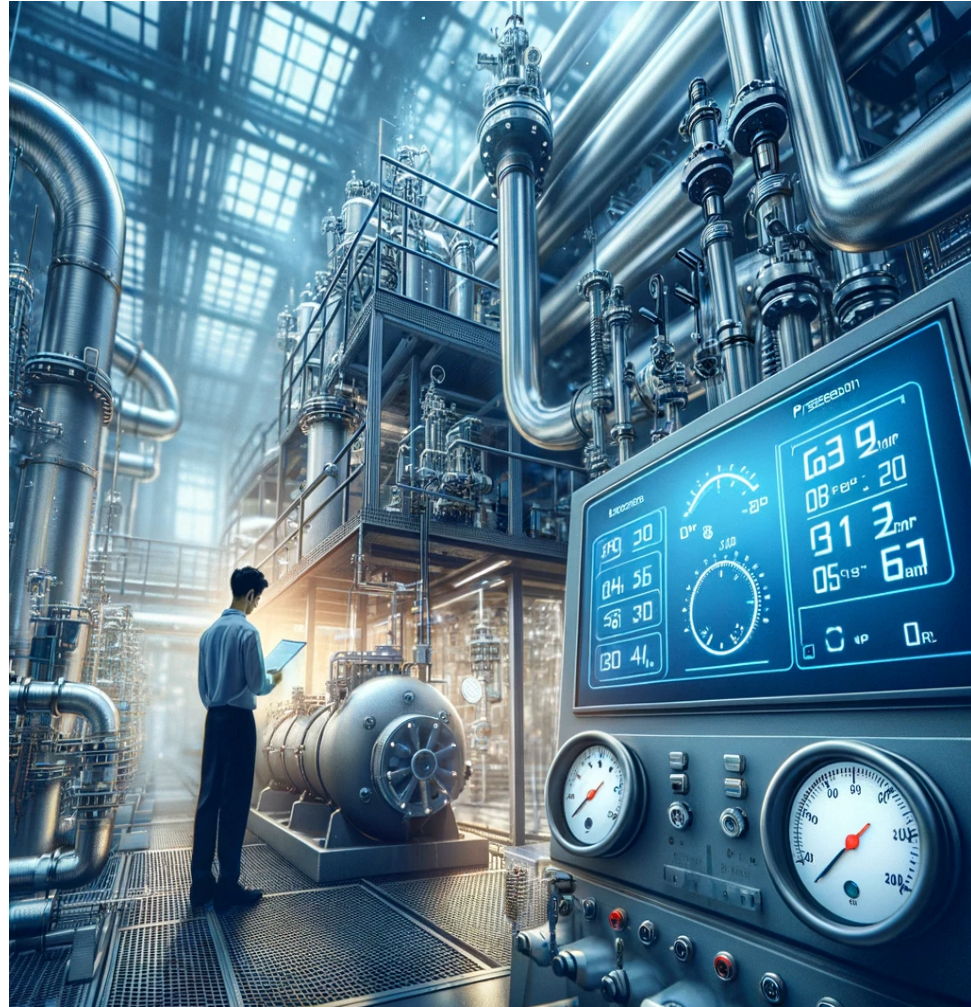
**Smart Integration:** Features an inbuilt display and Modbus output, allowing for easy integration with energy management software, streamlining the process and reducing the need for additional software investments.



**Versatile Performance Range:** Capable of accurately measuring a wide range of operating temperatures for both cold and hot water applications, suitable for pipes ranging from 32 to 6000 mm in diameter.



**Cost-Efficiency:** Priced affordably and designed to lower project costs, this sensor ensures a faster return on investment with its low cost of ownership.




## PART THREE - DEW POINT MEASUREMENT






Sensor Module	WADS 201 - 202	WADS - 203	WADS - 204
Sensor Type	Polymer	Aluminum oxide	QCM
			
Suitable Applications			
Refrigerated Dryer	✓		
Desiccant Dryer	✓	✓	✓
Nitrogen Generator		✓	✓
High Purity Industrial Gas			✓
Pollutant Particle Tolerance	✓	✓	
Non-inert & Corrosive Gas Tolerance			✓

# WAFS - 2xx Series Dew Point Sensors



Sensor Module	WADS 201 - 202	WADS - 203	WADS - 204
Sensor Type	Polymer	Aluminum oxide	QCM
			
> -60 °CTd: Refrigerated Dryer, Desiccant Dryer, Industrial Gas	✓		
-80 ... -40 °CTd: Desiccant DRyer, Nitrogen Gas Generator, Industrial Gas		✓	
-120 ... -60 °CTd: High Purity Industrial Gas			✓
Contains Pollutant Particles	✓	✓	
Non-Inert & Corrosive Gas		✓	
> -60 °CTd: Refrigerated Dryer, Desiccant Dryer, Industrial Gas	✓		
-80 ... -40 °CTd: Desiccant DRyer, Nitrogen Gas Generator, Industrial Gas		✓	

# Dew Point Sensor Selection Recommendations

Model	WADS 201	WADS 202	WADS 203	WADS 204	WADS 205 / 206	WADS 207 - 208
						
Sensor type	Polymer sensor		Aluminum oxide sensor	QCM sensor	Select	Select
Best use range	-60 ... +60 °Ctd - 80...+20 °Ctd		-80 ... -40 °Ctd	-120 ... -60 °Ctd	Select	Select





## PART FOUR - POWER METERS



### **Comprehensive Power Analysis:**

Equipped to conduct detailed power quality analysis, ensuring accurate monitoring and diagnostics across various electrical systems.



**High Linearity:** Maintains precise accuracy across the full measurement scale, which is essential for consistent and reliable power monitoring.



**Wide Dynamic Range:** Capable of measuring electrical parameters over a broad spectrum, accommodating a diverse array of industrial applications.



### **Extensive Data Logging Capability:**

Features the capacity to log data for up to 100 million valve operations, enabling long-term analysis and trend monitoring.



## PART FIVE - LEAK DETECTORS



**Wide Frequency Range:** Operates from 20 kHz to 90 kHz, allowing for the detection of a wide array of leakage events, from the smallest to more significant leaks.



**Noise Filtering Technology:** Equipped with three filters to remove main noise frequencies, making it highly effective in industrial environments where background noise is prevalent.



**Enhanced Sensitivity Control:** Features adjustable receiver sensitivity, which helps in categorising the intensity of the leaks and facilitates accurate detection and analysis.

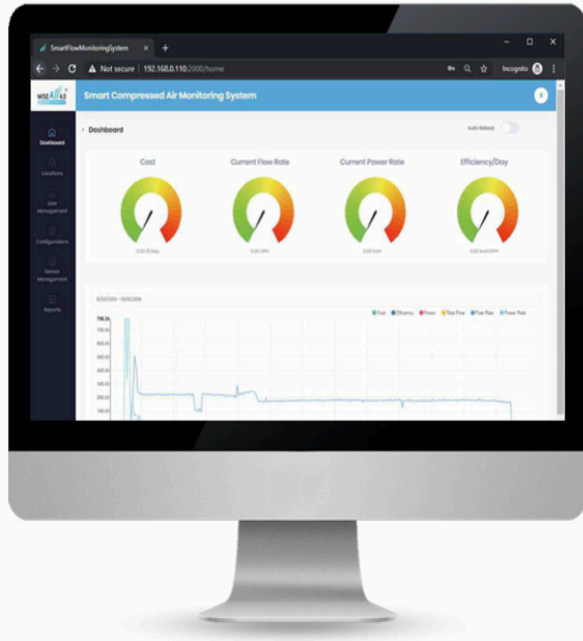


**Versatile Signal Transmission:** Offers three levels of transmitter signal strengths, enabling precise leak location across various distances and scenarios.



## PART SIX - ADVANCED SMART MONITORING

# WASM - Smart Monitoring Software



Visualise the  
Entire Plant



Data  
Assessments



Real Time  
Monitoring



Facts Based  
Improvement



## Real-Time Data Monitoring:

Provides immediate insights into air flow, pressure, and temperature, enabling prompt issue detection and predictive maintenance.



## Energy Efficiency Optimization:

Analyzes system operations to suggest energy-saving measures, significantly reducing operating costs.



## Automated Control and Alerts:

Automates control functions and sends instant alerts for abnormalities, minimizing downtime and enhancing efficiency.



## Versatile Signal Transmission:

Offers three levels of transmitter signal strengths, enabling precise leak location across various distances and scenarios.



## PART FIVE - SMART DRAINS

# WAM - Magnetic Drains



**Eco-Friendly Operation:** Operates without external power, ensuring environmentally responsible performance.



**Robust and Safe Design:** Features explosion-proof construction and is suitable for outdoor installation, providing durability in various environments.



**Intelligent Zero Air-Loss Technology:** Only drains when necessary, preserving valuable compressed air and preventing energy waste.



**Advanced Safety Features:** Includes manual testing, strainer inclusion to prevent blockage, and an optional anti-freezing mechanism for cold climates.

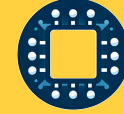




## WAL - Smart Electronic Drains



**Smart Control:** Adapts operations using CPU-based control for optimal condensate level management.



**Modular Design:** Ensures easy maintenance and contributes to system longevity.



**Energy Efficient:** Functions without power in standby mode, reducing energy consumption.



**Frost Protection:** Includes optional heating to maintain reliable operation in cold environments.

# WISEAIR 4.0 DIGITAL ECO SYSTEM FOR COMPRESSED AIR

Easily Control and Manage your Compressed Air System with near perfect accuracy.



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