

HOW RELIABLE PROCESS MONITORING SUPPORTS STERILE API MANUFACTURING

STANDARDISED MEASUREMENT FOR YAGUANG'S GLOBAL 3-IN-1 EQUIPMENT PORTFOLIO



Customer inspecting WIKA SA-11 instrument on site

Image Source: Zhejiang Yaguang Technology Co., Ltd.

Active pharmaceutical ingredients (APIs) form the basis of modern medicines, yet their production is one of the most challenging manufacturing processes in the pharmaceutical industry. As a pioneer in integrated filtration, washing and drying systems, Zhejiang Yaguang relies on precise process monitoring to support quality, safety and regulatory compliance. Today, standardised instrumentation solutions from WIKA are an integral part of Yaguang's 3-in-1 equipment portfolio, supporting the company's international growth strategy.



Smart in sensing

Challenge

Sterile production under demanding conditions

Sterile API production requires aseptic manufacturing environments, zero cross-contamination and reliable operation under challenging process conditions. Many applications involve organic solvents, making explosion protection an additional requirement. At the same time, manufacturers must maintain strict quality standards and comply with increasingly stringent regulatory requirements.

Reliable instrumentation is essential

Temperature fluctuations, elevated pressures and long operating cycles place exceptional demands on process instrumentation. Long-term measurement stability is critical for maintaining consistent production conditions and product quality. Inaccurate measurements can affect yields and, in extreme cases, result in batch rejection. As pharmaceutical equipment suppliers expand internationally, global service capabilities and recognised certifications become equally important.

Strict requirements for sterile API production

- Aseptic production with zero cross-contamination
- Explosion-protected operation in solvent-based environments
- Extreme temperature fluctuations and elevated process pressures
- Long-term measurement stability for reliable operation
- Global service support and international certifications for worldwide projects



Image Source: Zhejiang Yaguang Technology Co., Ltd.

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In the past, long-term operation under high temperatures, high pressures and frequent temperature fluctuations could affect measurement stability. Today, we place great importance on long-term instrument reliability, which is why WIKA instruments have become a standard component of our 3-in-1 equipment.

Chen Jingbo

General Manager

Zhejiang Yaguang Technology Co., Ltd.

Solution

Building a partnership focused on reliability

Yaguang's collaboration with WIKA began with an industrial evaporation project. During the early stages of cooperation, WIKA specialists provided technical consultation, application expertise and customised instrument selection tailored to the challenging conditions of the pharmaceutical process. Following the successful validation on Yaguang's 3-in-1 equipment, WIKA instrumentation was adopted as the standard configuration across the entire product platform.

Standardised instrumentation for pharmaceutical applications

Today, WIKA's pressure, temperature and process instrumentation is integrated across Yaguang's 3-in-1 equipment portfolio. The combination of application-specific solutions, reliable measurement performance, international certifications and global service capabilities helps support demanding pharmaceutical manufacturing environments and international customer projects.



Yaguang 3-in-1 unit equipped with WIKA's TR10 and IS-3 instruments

Image Source: Zhejiang Yaguang Technology Co., Ltd.

Zhejiang Yaguang Technology Co., Ltd.

- Founded in 1996
- More than 1,200 employees worldwide
- More than 300 R&D specialists
- Developer of China's first integrated filtration, washing and drying system for sterile API production
- Global supplier of pharmaceutical process equipment

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We regard our partnership with WIKA as a mutually beneficial relationship characterised by shared learning and joint progress. Beyond product performance, the collaboration helps us continuously improve and better serve customers worldwide.

Chen Jingbo

General Manager

Zhejiang Yaguang Technology Co., Ltd.

In detail

Stable measurement performance

WIKA's pressure, differential pressure and temperature instruments installed provide steady, accurate readings even in challenging ambient conditions, including temperature fluctuations ranging from $-20\text{ }^{\circ}\text{C}$ to $100\text{ }^{\circ}\text{C}$ and high process pressures. They enable consistent monitoring of critical parameters throughout the filtration, washing and drying phases of pharmaceutical production.

Application-specific instrument selection

No universal standardised instrument setup was applied. Each WIKA instrument deployed was selected and validated based on the specific operating requirements of Yaguang's pharmaceutical process equipment, especially its Filter-Wash-Dry Integrated System production units. This targeted matching ensures reliable adaptability to stringent on-site working conditions and production standards.

Compatibility with pharmaceutical environments

The selected instrument lineup adopts hygienic construction that caters to core pharmaceutical priorities: aseptic production, contamination prevention and explosion protection. All equipment meets the stringent standards required for sterile API manufacturing.

Global Service Infrastructure

Yaguang gains access to local technical support and comprehensive after-sales services via WIKA's world-wide service network. Customers receive on-site assistance while relying on uniform global technical standards and cross-industry expertise.

Internationally recognised standards

All instruments used carry globally acknowledged certifications and approvals. Validated product qualifications make it easier to comply with pharmaceutical regulatory standards across different international markets.

The products

- **Hygienic 3-A/EHEDG pressure transmitter SA-11** crevice-free and CIP/SIP-resistant, for aseptic measuring points
- **Pressure transmitter IS-3** for use in hazardous areas
- **Process transmitter** for differential-pressure tasks such as filter monitoring, also available for hazardous areas
- **Resistance thermometer TR10**, whose sensor can be replaced during operation, for temperature control across filtration, washing and drying
- **Resistance thermometer TR10 version** for temperature measurement in hazardous areas



Image Source: WIKA

Benefits

- **Reliable & Consistent Operation**

Reliable process monitoring and stable measurements help ensure stable operation of Yaguang's 3-in-1 equipment and reduce the risk of quality deviations under demanding pharmaceutical production conditions.

- **Reduced risk of yield losses**

Long-term measurement stability helps minimise the risk of process deviations that could impact production yields or result in batch rejection.

- **Support for aseptic manufacturing**

Instrumentation designed for demanding pharmaceutical environments helps support sterile production processes and stringent safety requirements.

- **Simplified global project execution**

International certifications and globally available support help facilitate project implementation in pharmaceutical markets worldwide.

- **Greater customer confidence**

Reliable instrumentation and professional support strengthen confidence in equipment performance throughout the entire project lifecycle.

- **Standardised equipment platform**

A unified instrumentation strategy supports consistent engineering, operation and service across Yaguang's 3-in-1 equipment portfolio.



Our partnership with Yaguang demonstrates how reliable instrumentation, technical expertise and close collaboration can create lasting value. Together, we support pharmaceutical manufacturers with solutions designed to meet demanding quality, safety and compliance requirements worldwide.

Clark Xu

Food & Pharma Sales Key Account Manager,
WIKA China

Creating value through long-term collaboration

Reliable process monitoring is a critical success factor in sterile API manufacturing. By standardising on WIKA instrumentation solutions, Yaguang combines stable measurement performance with global support capabilities and internationally recognised standards. The result is a solution that strengthens operational reliability today while supporting the company's long-term international growth ambitions. Looking ahead, both companies intend to strengthen their collaboration in areas such as IIoT applications, process optimisation and advanced monitoring solutions.

Contact

Do you want to improve reliability, compliance and process stability in pharmaceutical manufacturing? Contact WIKA to learn more:

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