



Huynh Bang Company Corporate Presentation

Ho Chi Minh City, Vietnam
June 2026

I. Company Profile

1. Vision, Mission & Core Values
2. Facts & Figures
3. High-quality Products for Industrial Heat as well as Measurement & Automation Applications
4. Management & Team

II. Solutions for various Applications

1. Industrial Heat (Burners, Flue Gas Analysers, Boilers, Oil Pumps and Spare Parts)
2. Measurement (Level, Switching, Pressure, Temperature, Liquid Analysis, Flow and Concentration)
3. Automation (Inventory System, Control, Recording, Automation Systems & Monitoring)

III. Contribute to the Success of our Customers

IV. Conclusion

I. Company Profile

1. Vision, Mission & Core Values.



Our Vision:

Contribute to Vietnam's industry growth by supplying **high-quality and efficient Industrial Equipment** "Made in Germany" and become and remain the **First-in-Mind Supplier**.



Our Mission:

Combine strong technology with management, engineering and people skills as well as experience to provide **optimal solutions to our Customers** and continuously contribute to their success.



Our Core Values:

- **Collaborate and Teamwork.** We actively communicate and share knowledge to achieve the best results.
- **Service-oriented.** We commit ourselves to Maintenance, Repair and Operations (MRO) and achieve high customer satisfaction through an outstanding after sales service.
- **Operational Excellence.** We are committed to the relentless pursuit of quality and maximize the efficiency and accuracy of all our business processes.
- **Results and Accountability.** We deliver measurable results and operate at the highest level of responsibility, integrity, honesty and respect.
- **Be curious.** We are continuous learners and do not accept things the way they are without understanding why.
- **Passionate & Pride.** We are passionate about what we do and proud of how we do it.
- **Inspire.** We inspire others by demonstrating excellence in everything we do and how we do it.

I. Company Profile

2. Facts & Figures



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COMPANY

Founded in:

2003

Sphere of activity:

Supplier and Service Agent of Industrial Equipment „**Made in Germany**“ for Vietnam Market.

Partnering with over 10
Manufacturers from
Germany



Legal and administrative
headquarters:



**Huynh Bang
Company, Ltd.**

36 Street no. 2, Quarter 22
Binh Trung Ward,
Ho Chi Minh City
Viet Nam

Employees:

16

Office space:

174 m²

I. Company Profile

3. High-quality Equipment for Industrial Heat and Measurement & Automation Applications.






| Huynh Bang Company | | | | |
|--|--|--|--|---|
| Sales | | | | |
| Industrial Heat | | Measurement & Automation | | |
| Oil, Gas and Dual-fuel Burners | | Level Measurement Point Level Detection and Pressure | | Controller, Software Inventory System – Hosting Service |
| Flue Gas Analysis, Pressure & Gas/Leakage Detection | | Temperature, Liquid Analysis, Pressure, Flow and Humidity | | Controllers, Recorders, Automation Systems and Monitoring |
| Steam Boilers, Hot Water Boilers | | Non-contact infrared Temperature | | |
| Burner Supply Pumps, Feed Pumps & Delivery Aggregates | | Flow Measurement | | |
| | | Mass Flow Meters & Controllers | | |
| | | Variable Area Flow Meter | | |
| | | Gas and Air Flow | | |
| | | Vessel Lights Sight Glasses Vessel Closures | | Process & High Temperature Cameras, Particle Size Systems Software & Hardware |
| | | | | |

I. Company Profile

4. Management understanding both Western and Vietnamese culture.







Huỳnh Đăng Khoa
Managing Director

-  Degree in Business Administration from Muenster University of Applied Sciences (Germany).
-  Speaks fluent German, English and Vietnamese.
-  Responsible for the operational leadership and the day-to-day business.



Tôn Nữ Quỳnh Hương
Deputy Director

-  Multi-cultural background having been educated in Vietnam, the United States and Australia.
-  Degree in Management & Human Resource Management from Curtin University (Australia).
-  Speaks fluent English and Vietnamese.
-  Responsible for management of finance & accounting as well as human resources.

I. Company Profile

4. Team working together and supporting each other to create value for Customers



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Sales Team



Technical Support

Finance, Accounting & Logistics



Service Team

I. Company Profile

4. Team working together and supporting each other to create value for Customers.



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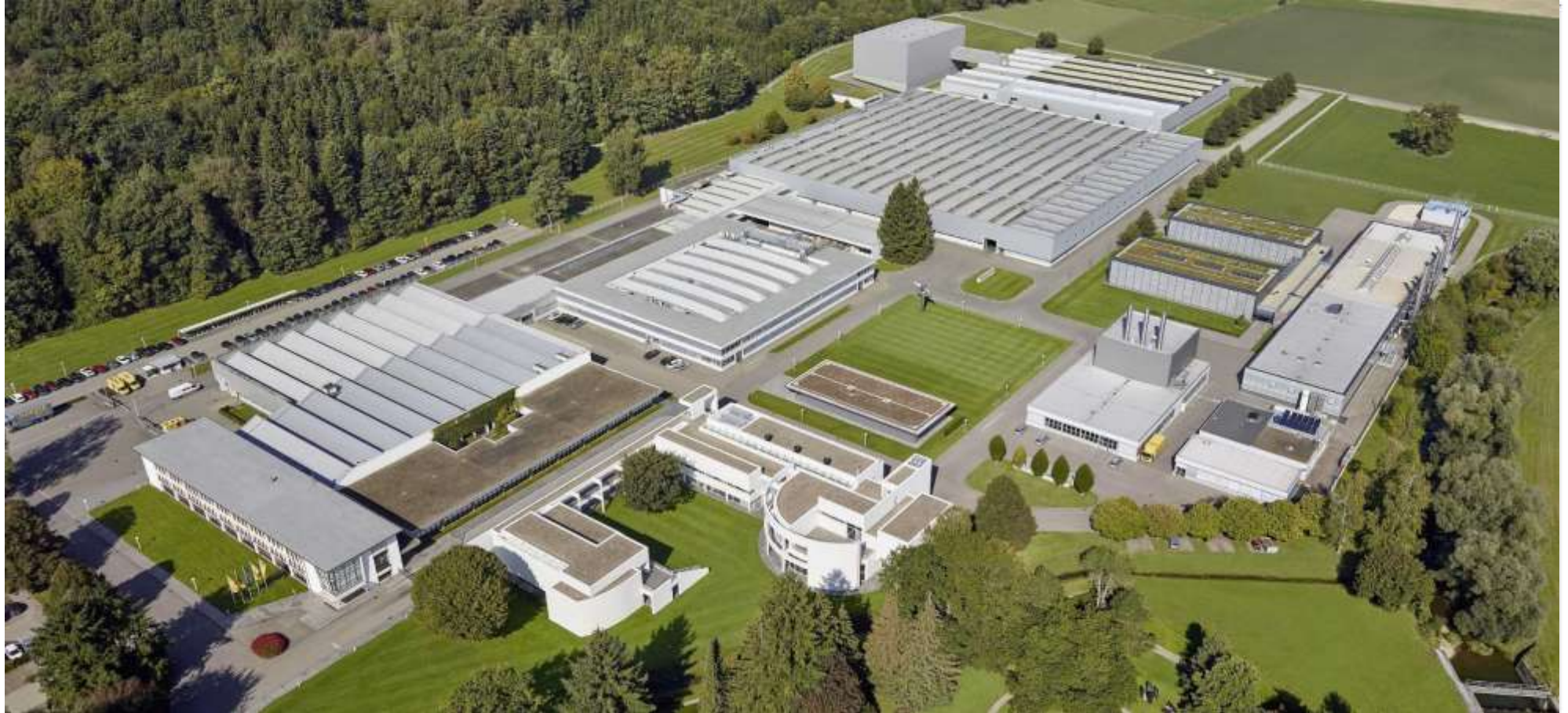


II. Solutions for Industrial Heat Applications

1. Weishaupt Headquarters in Schwendi, Germany



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-weishaupt-

II. Solutions for Industrial Heat Applications

1. Weishaupt oil, gas and dual-fuel burners.



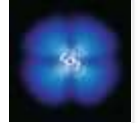
-weishaupt-



-weishaupt-
That's reliability.

II. Solutions for Industrial Heat Applications

1. Weishaupt – from low to high capacity ranges.



Oil, gas and dual-fuel burners

W range

- Exemplary efficiency
- Excellent emission levels
- Sophisticated technology
- Versatility: **4.5 - 700 kW**
- Long life



Oil, gas and dual-fuel burners

Burners with multiflam® technology

- Low NOx emissions
- Optimum combustion
- Safe and simple principle
- Great versatility:
700 - 23.000 kW
- Digital combustion equipment
- Long life



Oil-gas and dual-fuel burners

WM monarch® range

- Outstanding price-performance ratio
- Great versatility:
20 – 12.000 kW
- User-friendly concept
- Spatially variable
- Easy installation



Oil, gas and dual fuel burners

Industrial burners WK & WKmono

- Digital precision
- Minimal emissions
- Maximum economy
- Tremendous versatility:
70 - 32.000 kW
- Convenient servicing
- Long life



Oil, gas and dual-fuel burners

Special version ZMI – PLN – ULN

- Extended turndown range **ZMI** – Gas burner
- Extremely low NOx values **PLN – ULN**
4.5 kW – 11.000 kW
- Excellent serviceability
- Long life



II. Solutions for Industrial Heat Applications

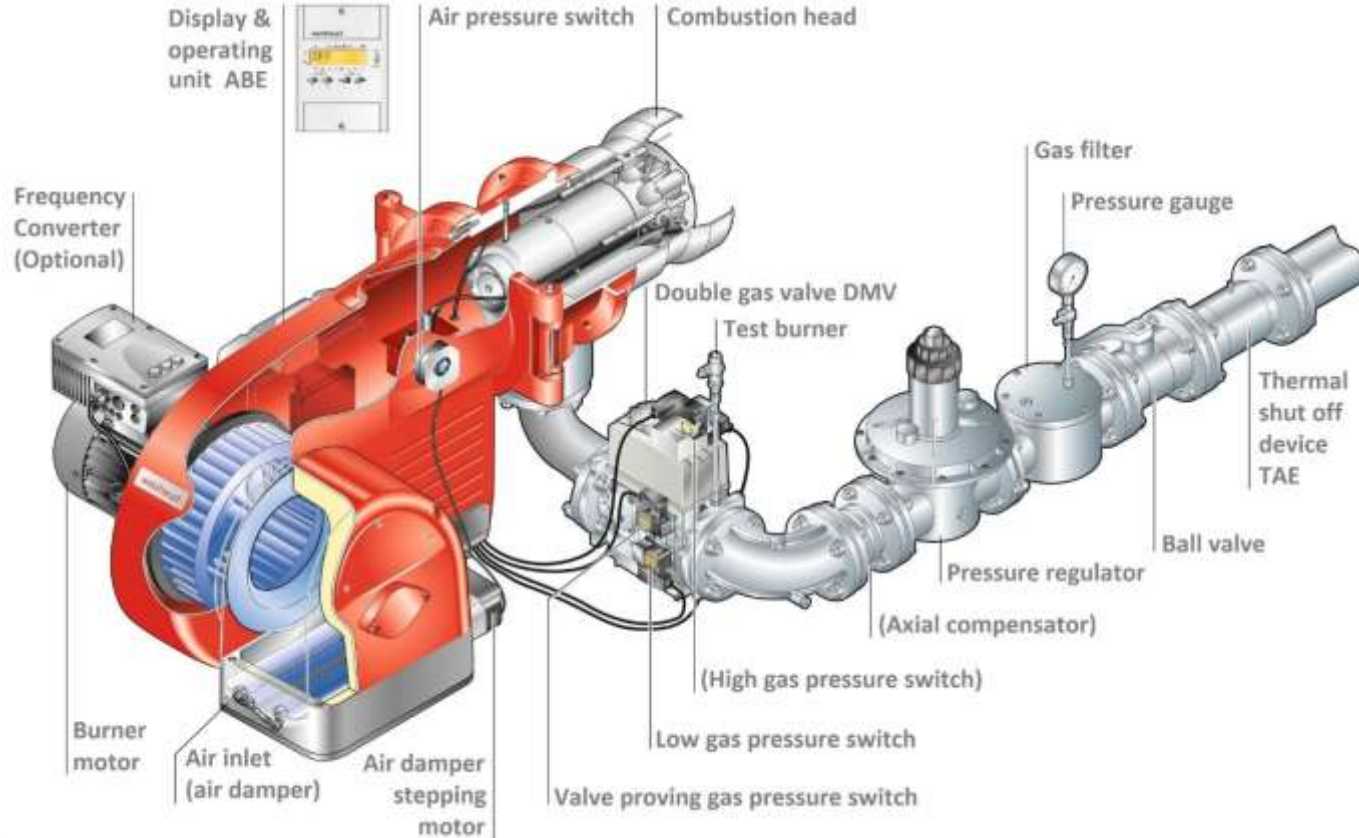
1. Weishaupt Gas Burner Monarch® WM-G10/20/30/50



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WM-G30 with flanged gas valve train DMV



[WM – gas burner](#)
[CAD portal](#)

II. Solutions for Industrial Heat Applications

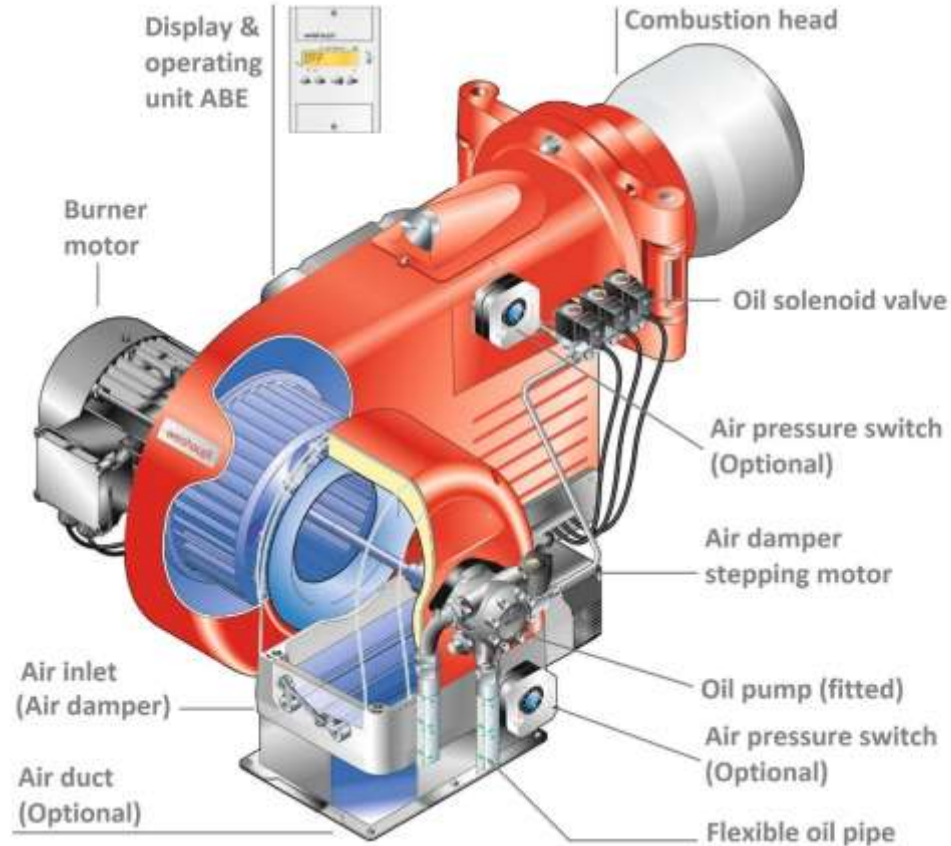
1. Weishaupt Oil Burner Monarch® WM-L10/20/30/50



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WM-L30 – Oil operation with components visible externally



[WM – oil burner CAD portal](#)

II. Solutions for Industrial Heat Applications

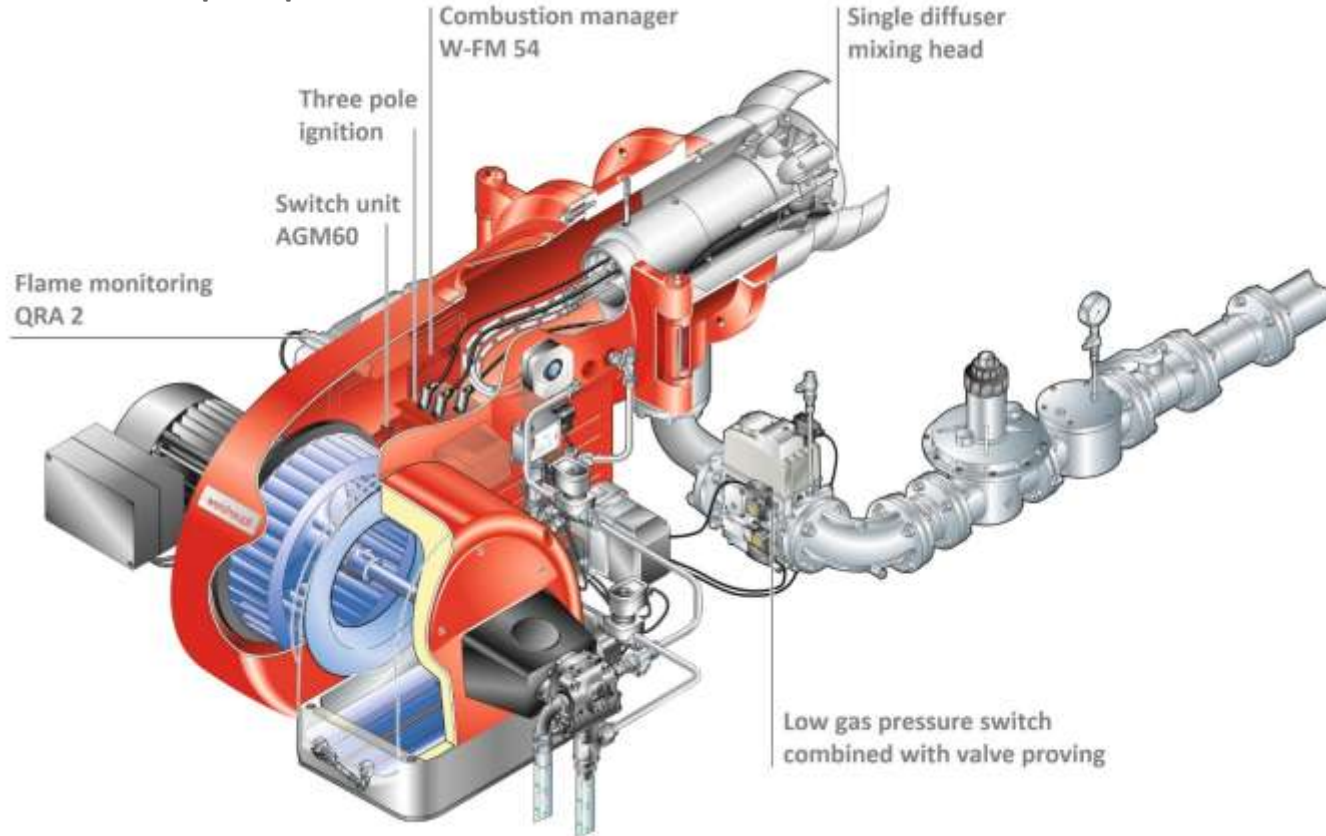
1. Weishaupt Dual Fuel Burner Monarch® WM-GL10/20/30/50



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WM-GL30 – Dual fuel burner with principle differences



[WM](#)

[Dual fuel burner](#)

[CAD portal](#)

II. Solutions for Industrial Heat Applications



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1. Weishaupt: Many Applications in various Industries



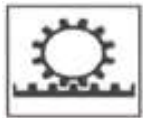
Waste recycling

- Waste incineration
- Process incineration



Wood industry

- Wood and veneer drying
- Chipboard production
- Wood chip firing



Metal industry

- Smelter
- Paint drying
- Degreasing



II. Solutions for Industrial Heat Applications

1. Weishaupt: Many Applications in various Industries



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Agriculture

- Grain, grass and green fodder drying
- Feed production



Food industry

- Deep frying
- Baking oven / travel ovens
- Coffee roasters
- Kilns



Textile industry

- Cloth and yarn drying
- Laundry



II. Solutions for Industrial Heat Applications

1. Weishaupt: Many Applications in various Industries



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Transport

- Asphalt mixing plant



Stone and soil

- Ceramics and glass industry
- Drying drums for sand & stone



II. Solutions for Industrial Heat Applications

1. Weishaupt with Digital Burner Technology



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-weishaupt-

II. Solutions for Industrial Heat Applications

1. Weishaupt with Digital Combustion Management W-FM (Weishaupt – Firing Management)



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Advantages of W-FM:

- High accuracy and optimal combustion figures
- Continually reproducible setting figures
- Easy handling, operating and fault history
- Integrated PID (Proportional–Integral–Derivative controller)
- Temperature / Pressure Controller
- Thermal shock protection
- Less spare parts
- Flexible communication possibilities and remote monitoring



II. Solutions for Industrial Heat Applications

1. Weishaupt with Digital Combustion Management W-FM for precise Error Diagnosis



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Fault History

Lockout Historie

Alarm act/deact

1 Class: 00 Gas
Code: A6 Phase: 12
Diag: 51 Lod: 0.0
Start No: 8

Pt 100
sensor break
on input X60:1/4

Error Actuator
Ratio Control

3 07.09.00 11.32
C:15 D: 07 P: 60
Start-No: 119
Load: 10.0 Gas

Alarm
Curr : activated
New : deactivated

Gas direct ignition

The diagram shows the sequence of events during gas direct ignition, including pre-purge, air supply, fuel valve opening, and ignition attempts. A red circle highlights the 'Standby' phase around 12 seconds.

Setpoint 240°C
Rot Value 94°C
Fuel Gas
Standby 12

Waiting for
Start Release 21

Start Fan on 22
Rot Value 240°C
Load 68.8%
Flame 94.4%

Setpoint 240°C
Rot Value 94°C
Fuel Gas
Standby 12

No Gas Pressure
Valve minimum
Valve on Burner
Side leaking

6 15.12.12 10:16
C:19 D:04 P:60
Start No: 1761
Load: 81.5 Gas

Internal Fault
Actuator

| | | | |
|----|-----------|--|---|
| 32 | - | Valve proving gas pressure switch has dropped out, contact closed, V2 or ignition gas valve leaking or V1 does not open. | <ul style="list-style-type: none"> Check gas pressure switch Check double gas valve |
| 19 | 01 ... 2F | Actuator error during comparison between potentiometer channel A and B | if several faults occur, the diagnosis codes are add up. |
| | 01 | Air actuator fault | Set allowed Pot.diff to 15, see [ch. 6.13.3]. |
| | 02 | Fuel actuator fault | Check CAN Bus connection [ch. 5.1]. |
| | 04 | Auxiliary actuator1 fault (Sliding sleeve) | Internal fault ¹⁾ |
| | 08 | Auxiliary actuator2 fault | |
| | 20 | Auxiliary actuator3 fault | |

II. Solutions for Industrial Heat Applications

1. Weishaupt with Digital Combustion Management W-FM

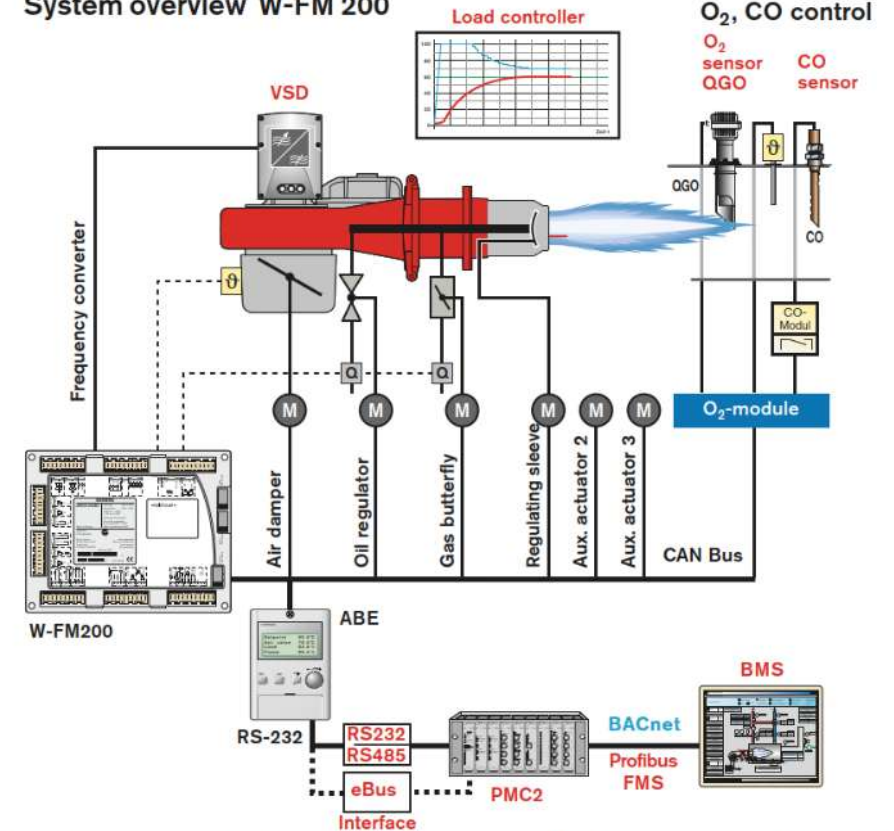


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From basic to high-end Applications:

- Basic oil, gas & dual-fuel burner
- VSD (variable speed drive)
- O₂-trim
- Remote control & data transfer via bus connection
- Flue gas recirculation
- Parallel operation, Simultaneous operation

System overview W-FM 200



Connection to PLC via Modbus / eBus / Profibus DP / Profinet / Ethernet IP / OPC UA

II. Solutions for Industrial Heat Applications

1. Special Application: Simultaneous Combustion

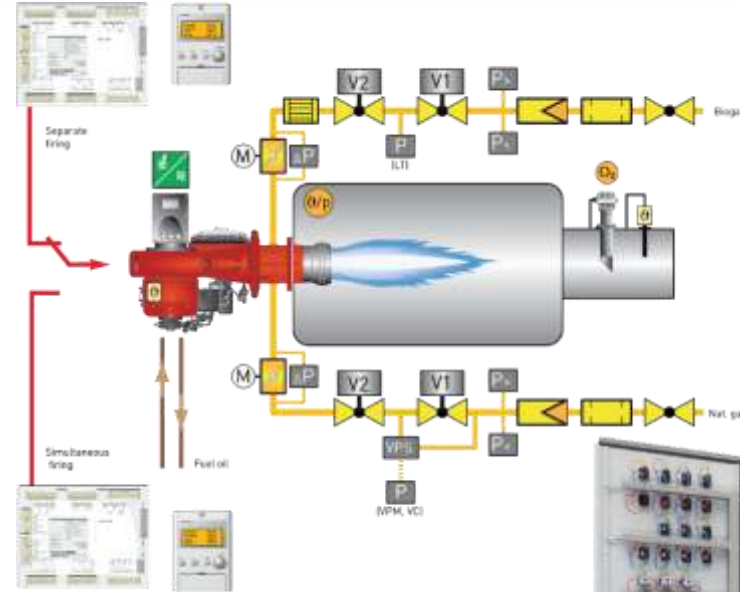


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The use of renewable fuels demands increasingly specialised solutions:

- Combustion of two or more fuels simultaneously.
- Executions with one or more combustion managers possible.
- “On-the fly” fuel changeover possible.
- Weishaupt has own in-house control panel design, production and testing department.
- Commissioning through experienced Weishaupt technician.



One of many solutions: Burner system with two W-FM 200 combustion managers for separate or simultaneous combustion.



Weishaupt control panel with two W-FM 200 combustion managers

II. Solutions for Industrial Heat Applications




1. Weishaupt burners with excellent Turndown Ratios



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Burner Turndown affects Efficiency:

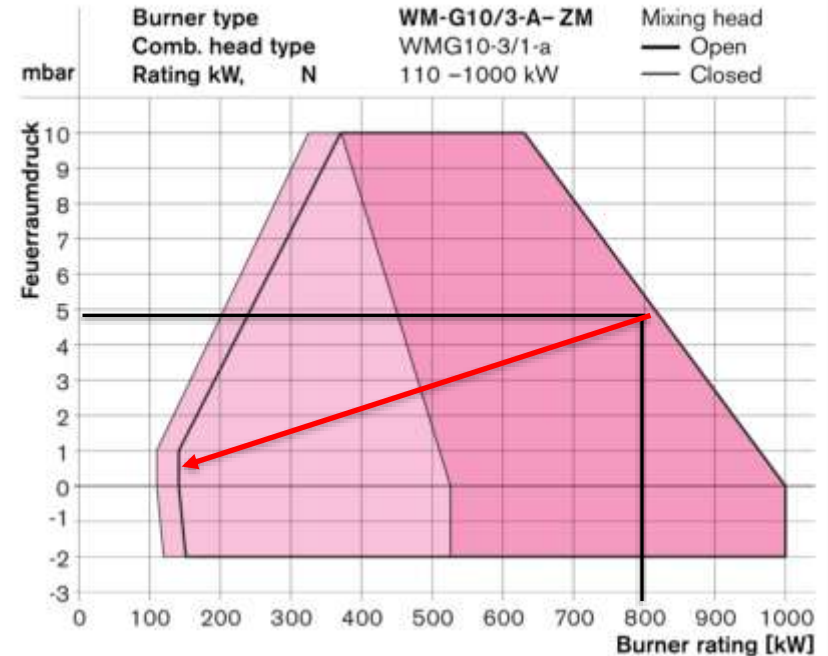
-  Burner turndown is important for fuel savings especially during mid- and low-load conditions.
-  Weishaupt gas burners have a turndown ratio of up to **1:10**. In practice, still many burners operate at 1:3 turndown.
-  Frequent boiler cycling also introduces thermal shock to the boiler tubes and refractory to shorten boiler life.

Name plate

| | |
|----------------------------|--|
| -weishaupt- | Max Weishaupt GmbH D-99076 Schweinfurt, Germany www.weishaupt.de |
| CE 0085 02-0085 DC 0027 | Burner type WM-G10/3-A - stainless Version ZM Distribution country DE Serial No. 9275019 Cat. 5/08/08 Year of manufacture 2009 Type of gas N Rating min. 110 kW max. 1000 kW Connection press. min. 15 mbar max. 900 mbar Fuel oil min. max. Ag/Th NOx-Cl. 5 Protection IP 54 Control voltage 230 V, 1-, 50/60 Hz 10 A gL Main voltage 400 V, 3-, 50/60 Hz Elec. rating 1.0 kW - (1111) - XRE Made in Germany |



Capacity graph WM-G10/3 version ZM



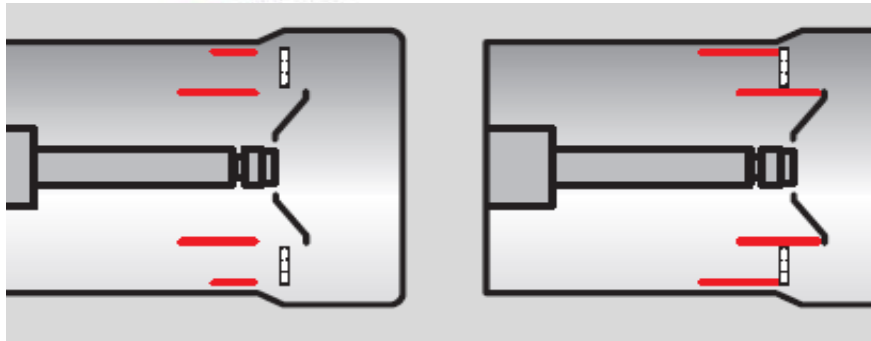
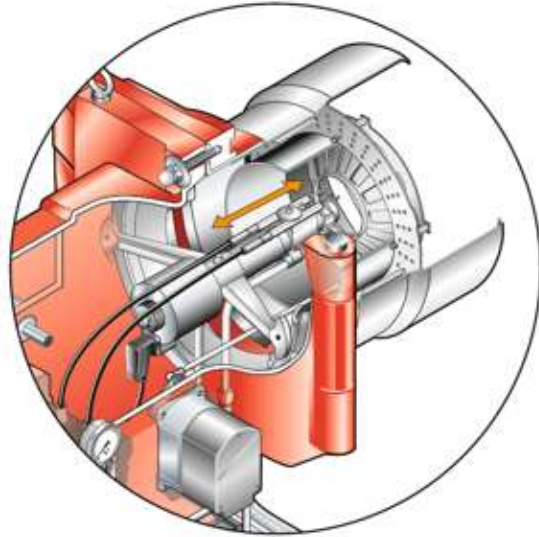
WM-G10/3 version ZM with turndown ratio of **1:8**
Possible min capacity of almost **100 kW** at max capacity of **800 kW**

II. Solutions for Industrial Heat Applications

1. Weishaupt burners with sophisticated Mixing Heads / Sliding Sleeves



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II. Solutions for Industrial Heat Applications

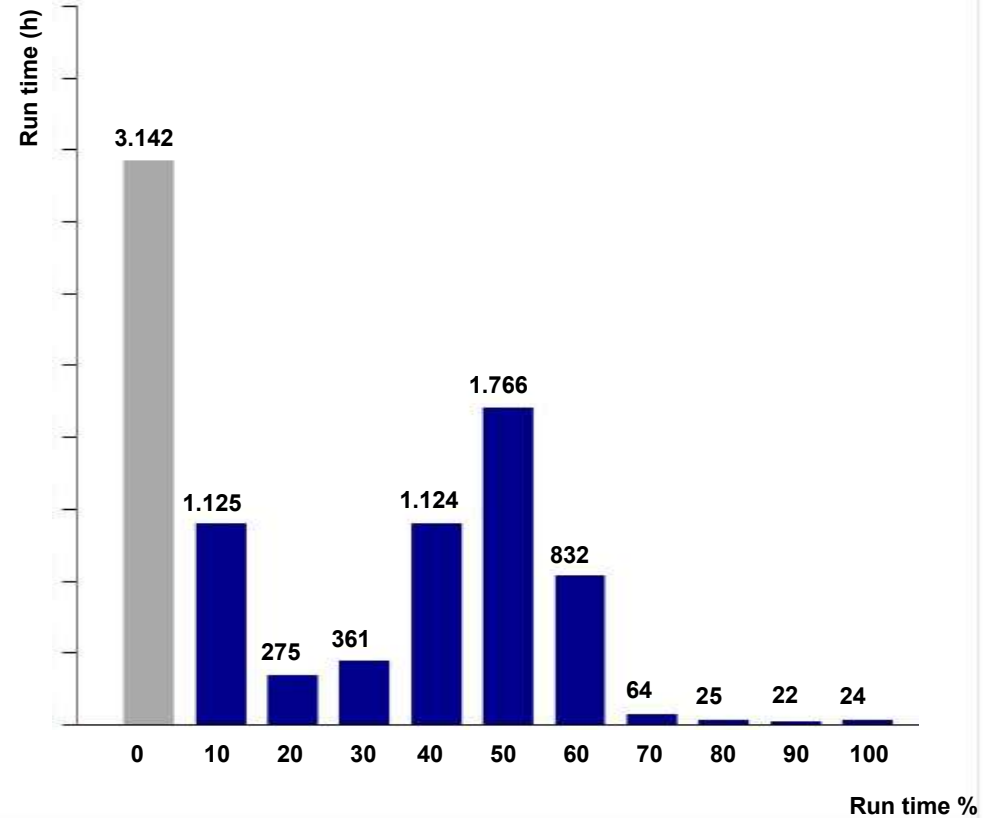


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1. Weishaupt Efficiency Calculator

Installation data

| | | |
|--|-------------------------|------|
| Boiler system | Steam (saturated steam) | |
| Steam output | 10 | t/h |
| Steam pressure | 10 | Bar |
| Saturated steam temperature | 180 | °C |
| Nominal load | 6.556 | kW |
| Minimum heat rating | 950 | kW |
| Boiler efficiency (nominal load)* | 93 | % |
| Standby heat output | 40 | kW |
| Standby heat output | - | % |
| Combustion chamber resistance | 12 | mbar |
| Flue gas side resistance | 0 | mbar |
| Installation elevation above sea level | 100 | m |
| Ambient temperature of plant | 30 | °C |



* The boiler efficiency refers to the calorific value.

II. Solutions for Industrial Heat Applications

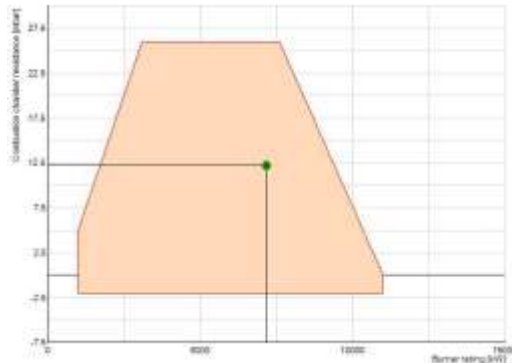


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1. Weishaupt Efficiency Calculator

Burner data

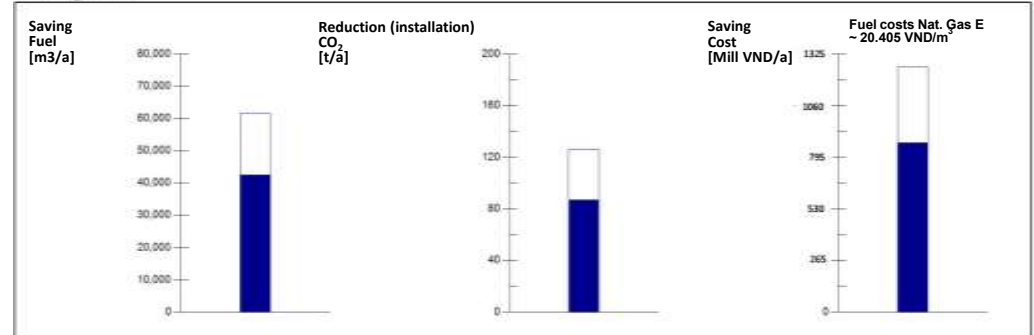
| Burner type (new) | WM-G50/2-A ZM-NR | | Burner type (old) | | |
|-------------------------------|------------------|--------------------------|-------------------------------|------------|--------------------------|
| Max. combustion capacity | 11.000 | kw | Max. combustion capacity | 8.000 | kw |
| Min. combustion capacity | 1.000 | kw | Min. combustion capacity | 1.000 | kw |
| Type of operation | Modulating | | Type of operation | Modulating | |
| Fuel | Nat. Gas E | 10.24 kWh/m ³ | Fuel | Nat. Gas E | 10.24 kWh/m ³ |
| O ₂ (Partial load) | 4.0 | Vol% | O ₂ (Partial load) | 6.0 | Vol% |
| O ₂ (Interm. load) | 3.0 | Vol% | O ₂ (Interm. load) | 5.5 | Vol% |
| O ₂ (Full load) | 2.0 | Vol% | O ₂ (Full load) | 4.5 | Vol% |
| Motor rating | 19 | kw | Motor rating | 18 | kw |



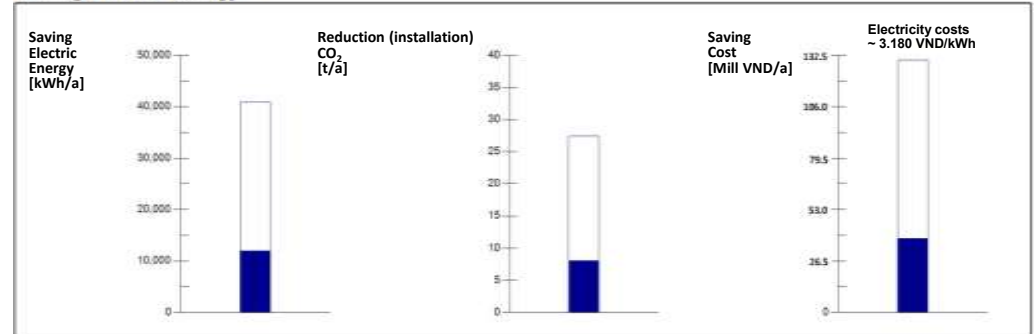
Saving

| Burner equipment | Modulating |
|---------------------|------------|
| Speed control | no |
| O ₂ trim | no |

Saving Fuel



Saving electric Energy



II. Solutions for Industrial Heat Applications



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1. Weishaupt Efficiency Calculator

Burner and service costs

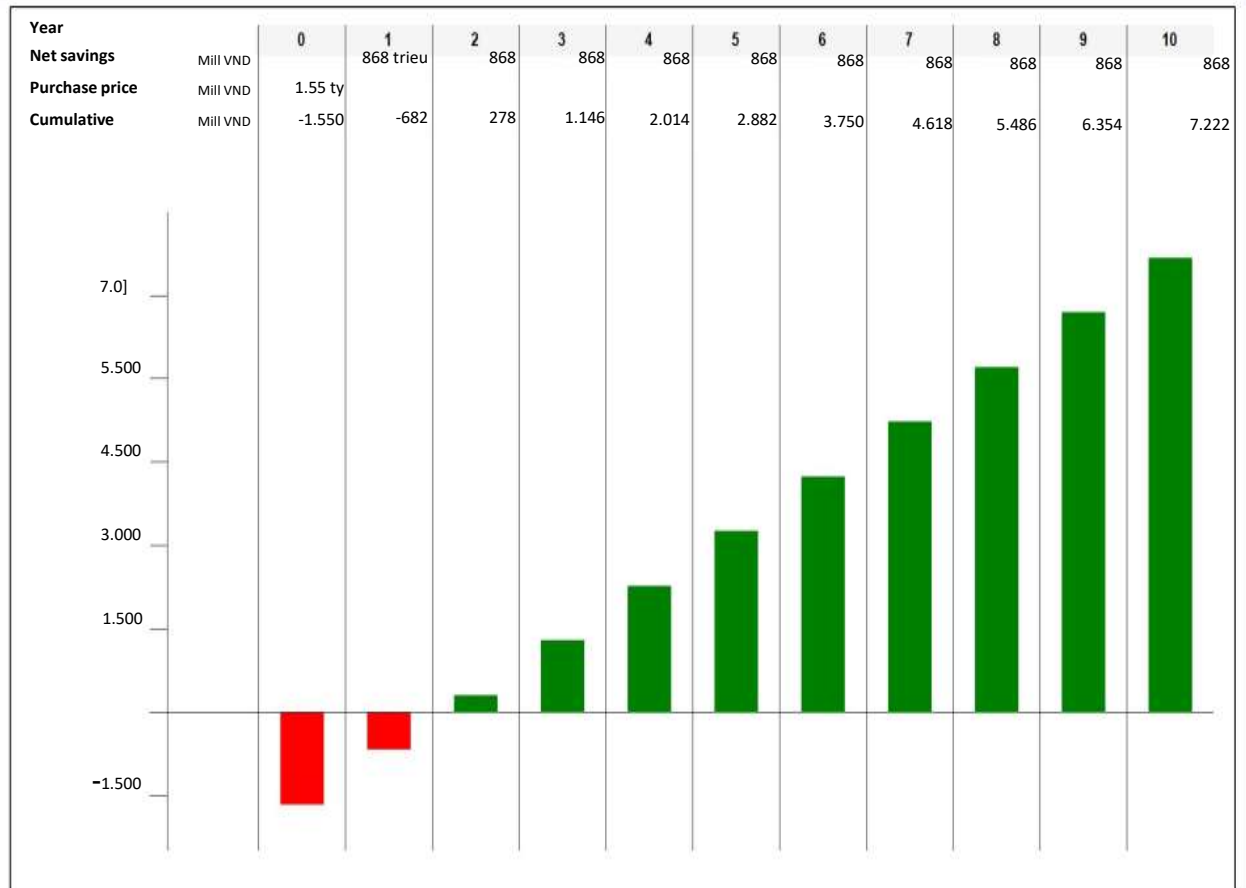
| | | |
|--------------------|---------|----------|
| Costs burner | ~ 1.100 | Mill VND |
| Costs accessories | ~ 400 | Mill VND |
| Costs service | ~ 40 | Mill VND |
| Calculation period | 10 | Years |

Payback period is 1.7 Years

Payback calculation:

In the payback calculation the annual nett savings are compared to the expenditure for the investment. If the cumulative annual nett savings exceed the expenditure for the investment, the payback time has been reached.

When calculating the annual nett savings the operating costs (fuel, electricity and service costs) of the burner in its standard execution are compared to the operating costs of the burner with the desired additional equipment. The resulting difference is the annual saving. The annual nett saving is determined by deducting the accrued interest back to the time of investment.



II Solutions for Industrial Heat Applications

1. Weishaupt. Commitment to Research & Development with own Test Boiler 32.000 kW



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-weishaupt-

II. Solutions for Industrial Heat Applications

1. Weishaupt W burner references in Vietnam



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WG40
Hot water boiler



WG30
Roaster



WG20
Baking oven



WG40
Thermal oil heater



WG20
Ceramic kiln



WG40
Powder Coating System



II. Solutions for Industrial Heat Applications

1. Weishaupt WM monarch® burner references



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4 x WM-G10
Coffee roaster



WM-G10
Hot water boiler



WM-G10
High pressure steam boiler



WM-G20
Steam boiler



WM-GL30
Thermal oil heater



WM-L50
Hot gas generator



II. Solutions for Industrial Heat Applications

1. Weishaupt WK burner references



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WKG50 – Steam boiler



WKGL50 – Air heater



WKGL70 – Thermal oil heater



WKGL50 – Fryer



WKGL50 – Thermal oil heater



WKGL70 – Thermal oil heater



II. Solutions for Industrial Heat Applications

1. Typical Weishaupt burner installation support & supervision



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II. Solutions for Industrial Heat Applications

1. Typical Weishaupt burner installation support & supervision



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II. Solutions for Industrial Heat Applications

1. Weishaupt burner commissioning with end-user and often system integrator



-weishaupt-

II. Solutions for Industrial Heat Applications

1. Huynh Bang can also offer customer training for their burners.



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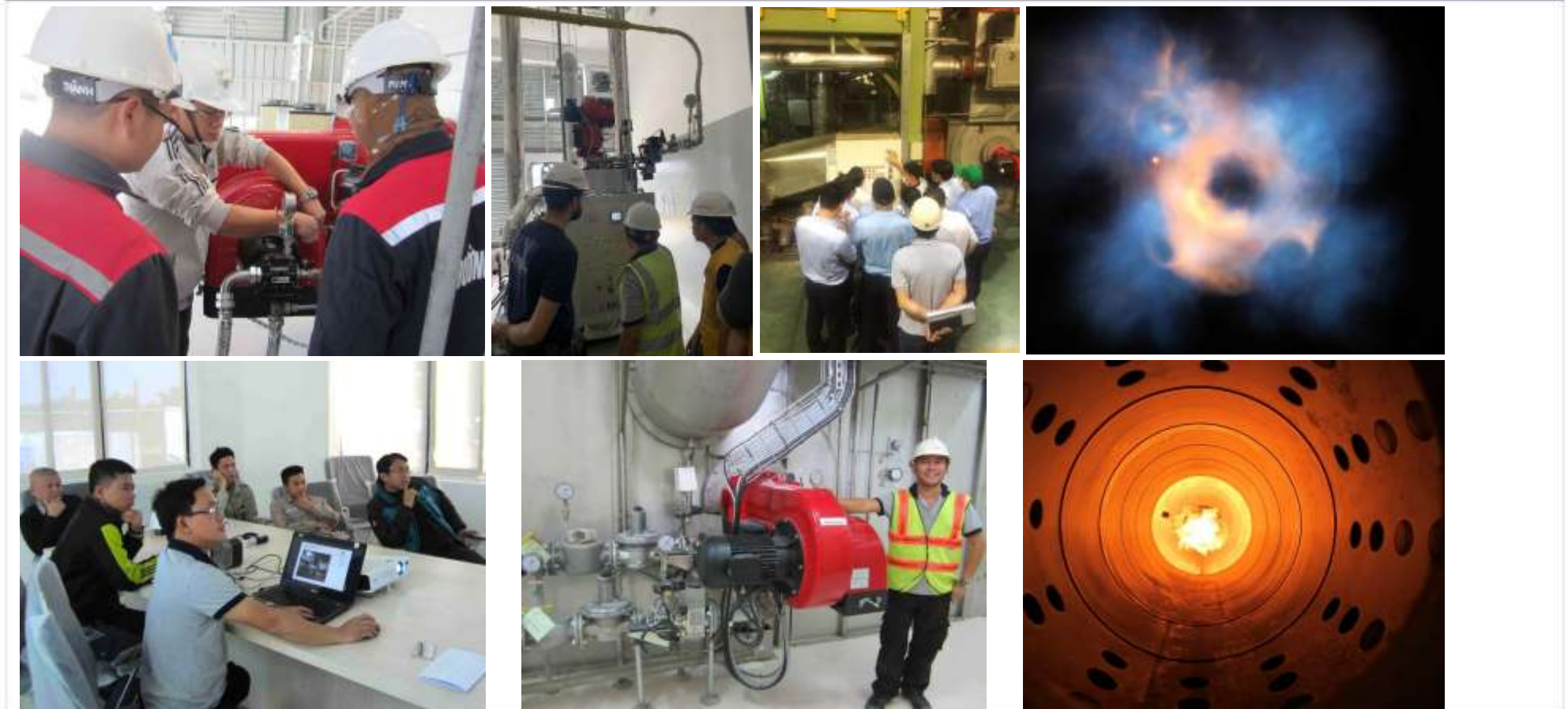


II. Solutions for Industrial Heat Applications

1. Huynh Bang can also offer customer training for their burners.



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II. Solutions for Industrial Heat Applications

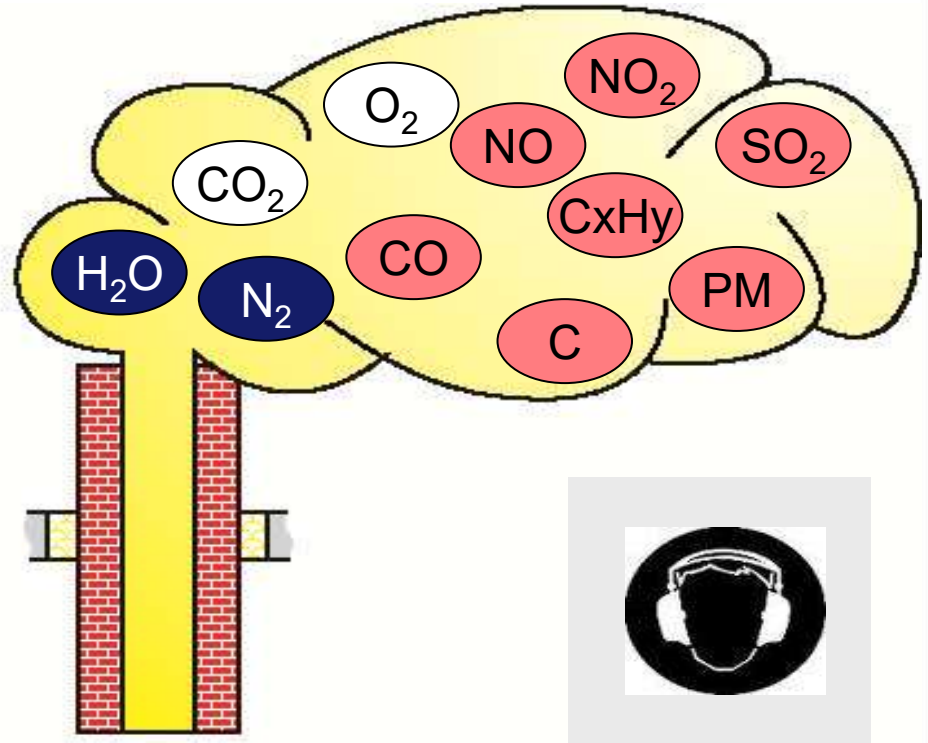
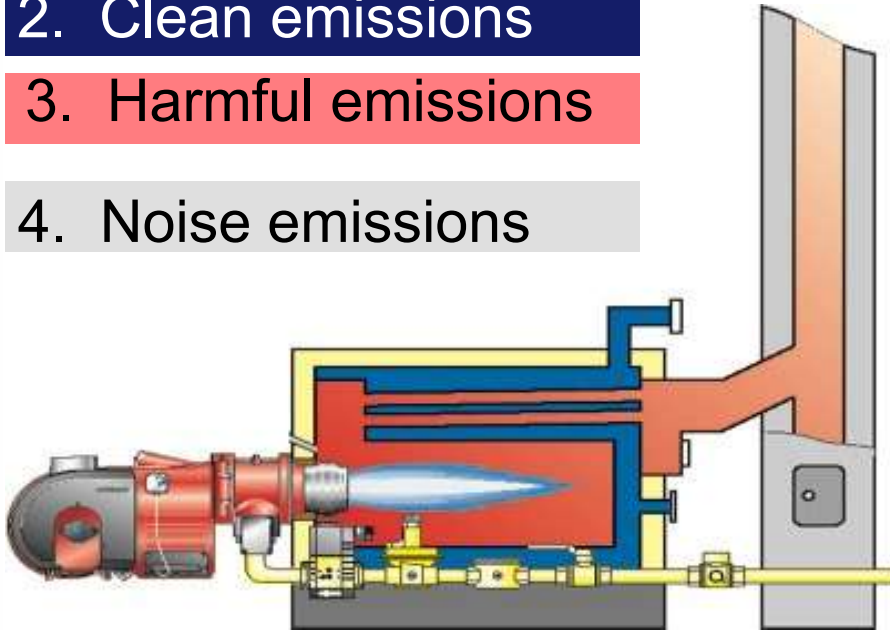
1. Overview Emissions

1. Efficiency

2. Clean emissions

3. Harmful emissions

4. Noise emissions



II. Solutions for Industrial Heat Applications

1. Industrial Heat: Importance of optimal air and fuel ratio for high efficiency and low emissions

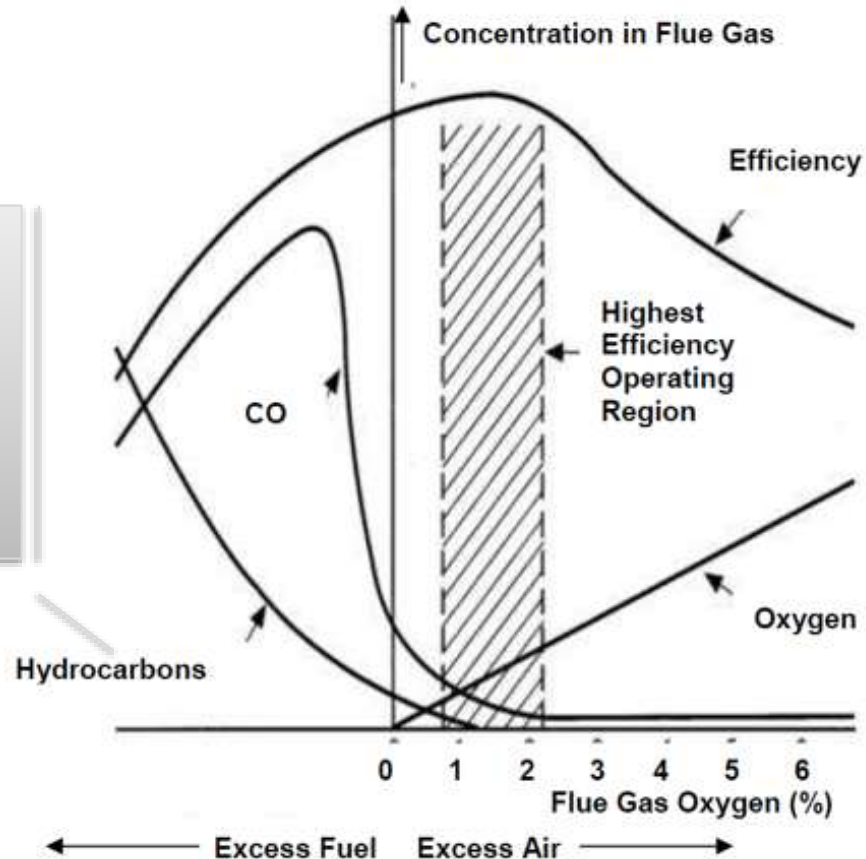


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Unburned fuel (carbon monoxide, hydrocarbon, etc.) and higher than required excess air levels result

- in poor performance,
- overall efficiency reduction
- and unnecessary spending.



Higher excess air means lower combustion efficiency.

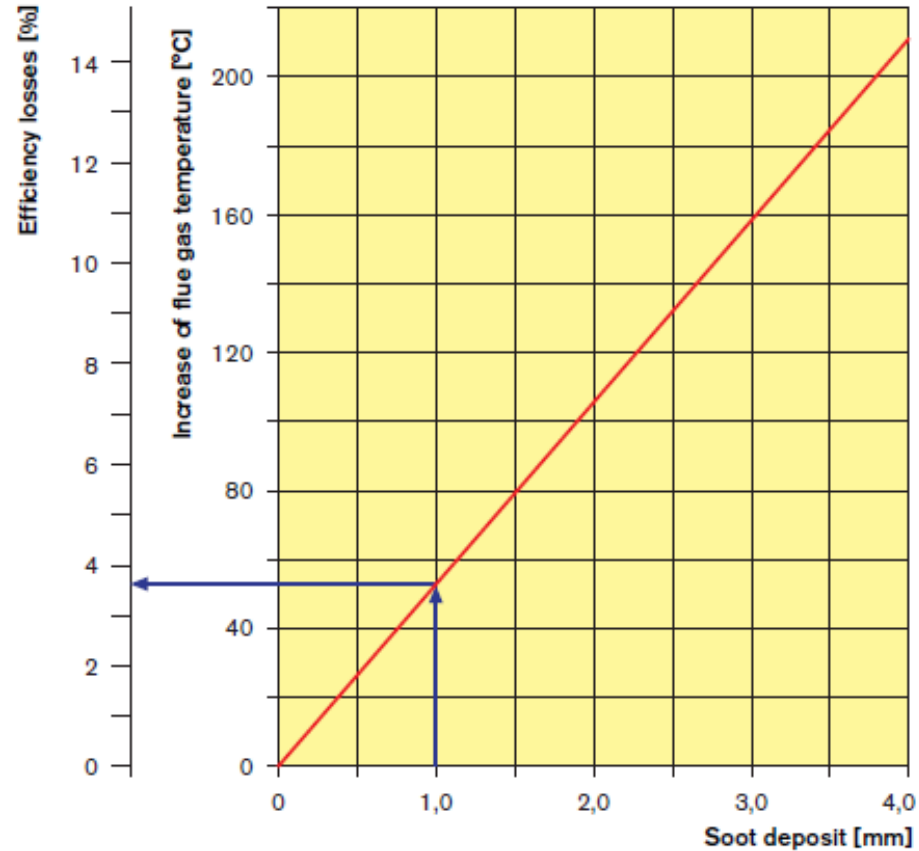
II. Solutions for Industrial Heat Applications

1. Industrial Heat: Influence of Soot Deposit on Boiler Efficiency



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II. Solutions for Industrial Heat Applications

2. ecom[®] Headquarters in Iserlohn, Germany



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II. Solutions for Industrial Heat Applications

2. ecom Flue Gas Analyser Range



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II. Solutions for Industrial Heat Applications


2. ecom: Variety of measured or calculated values for any kind of fuel




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-  **Measured values:**
- O₂ (0-21%)
 - CO (0-4.000 ppm)
 - Gas temperature (0 – 500 °C)
 - Ambient temperature (0 – 99 °C)
 - Pressure(± 100 mbar)
 - Differential pressure(± 100 mbar)
 - Internal air pressure sensor (300 – 1.100 mbar)
 - Internal flow measurement

-  **Options (electrochemical sensors):**
- NO (0 - 5.000 ppm)
 - NO₂ (0 - 1.000 ppm)
 - SO₂ (0 - 5.000 ppm)
 - CO extended (0 - 10.000 ppm)
 - CO% (0 - 63.000 ppm)
 - C_xH_y (0 – 4 vol% catalytic)
 - H₂ (0-2.000 ppm)
 - H₂S (0-1.000 ppm)
 - NH₃ (0-1.000 ppm)
 - HCl (0-100 ppm)

-  **Options (infrared bench):**
- CO% (0 - 63.000 ppm)
 - CO₂ (0 - 20%)
 - C₃H₈ (0 - 2.000 ppm)
 - CH₄ (0 - 30.000 ppm)
 - Differential temperature
 - Soot measurement

-  **Calculated values:**
- CO₂
 - CO_(undiluted)
 - Losses
 - Efficiency (0 – 120%)
 - NO_x
 - mg/m³
 - mg/kWh
 - Excess air
 - Dew point
 - Adjustable O₂ ref.

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-  **Fuel types:**
- Propane
 - Butane
 - Natural gas (L)
 - Natural gas (H)
 - Biogas
 - Biomass
 - Heavy oil
 - Light oil
 - Pellets
 - Wood
 - Coal
 - Gasoline

II. Solutions for Industrial Heat Applications

2. ecom: From small handheld instruments to robust case instruments



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ecom-B
small | handy | robust



ecom-EN3
quick | compact | accurate



ecom-J2KNpro EXPERT
robust | professional | flexible



ecom-ST
stationary analyser | autonomous |
quasi-continuous



ecom-DP
flexible | accurate | performing



ecom-
safe identification of
leakages at gas pipes



BW Clip O₂ / CO / H₂S
Maintenance-free
Single gas detector
Android / iOS compatible

II. Solutions for Industrial Heat Applications

2. ecom: Unique Selling Points ecom® Products



HUYNH BANG

| | | | | | |
|--|--|---|--|---|--|
|  EXTREMELY precise |  |  EXTREMELY efficient |  |  EXTREMELY complete |  |
|  EXTREMELY broad reach |   |  10 JAHRE GARANTIE YEARS GUARANTEE |  EXTREMELY safe |  | |
|  EXTREMELY cool |  | |  EXTREMELY robust |  |  EXTREMELY lossless |

II. Solutions for Industrial Heat Applications

2. ecom – flue gas analysis results – pressure test results



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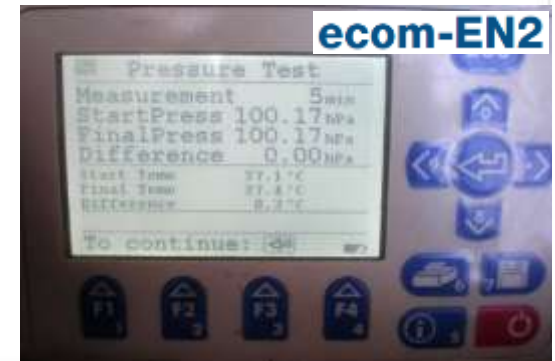
| 1 | 2 | 3 | 4 |
|---|---|---|--|
| <p>***** * ECOM - EN2 * ***** Date: Time 20.05.16 11:37:14</p> <p>Gas analysis</p> <p>Fuel type Natural Gas</p> <p>T.Air 38 °C T.Gas 72 °C O2 5.5 % CO 0 PPM NO 57 PPM NOx 60 PPM SO2 0 PPM CO2 9.5 % Eff. 89.3 % Losses 11.7 % Exc. air 1.23 Des. Poi. 55 °C</p> | <p>***** * ECOM - EN2 * ***** Date: Time 20.05.16 11:42:09</p> <p>Gas analysis</p> <p>Fuel type Natural Gas</p> <p>T.Air 38 °C T.Gas 85 °C O2 3.8 % CO 0 PPM NO 48 PPM NOx 50 PPM SO2 0 PPM CO2 9.6 % Eff. 88.0 % Losses 12.0 % Exc. air 1.22 Des. Poi. 55 °C</p> | <p>***** * ECOM - EN2 * ***** Date: Time 20.05.16 11:42:04</p> <p>Gas analysis</p> <p>Fuel type Natural Gas</p> <p>T.Air 40 °C T.Gas 96 °C O2 3.6 % CO 0 PPM NO 46 PPM NOx 40 PPM SO2 0 PPM CO2 9.7 % Eff. 87.6 % Losses 12.4 % Exc. air 1.21 Des. Poi. 55 °C</p> | <p>***** * ECOM - EN2 * ***** Date: Time 20.05.16 11:43:00</p> <p>Gas analysis</p> <p>Fuel type Natural Gas</p> <p>T.Air 42 °C T.Gas 105 °C O2 3.3 % CO 0 PPM NO 47 PPM NOx 49 PPM SO2 0 PPM CO2 9.9 % Eff. 87.1 % Losses 12.7 % Exc. air 1.19 Des. Poi. 55 °C</p> |



Flue gas analyzer display in operation

| 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|
| <p>***** * ECOM - EN2 * ***** Date: Time 20.05.16 11:44:19</p> <p>Gas analysis</p> <p>Fuel type Natural Gas</p> <p>T.Air 44 °C T.Gas 115 °C O2 3.1 % CO 0 PPM NO 49 PPM NOx 51 PPM SO2 0 PPM CO2 10.0 % Eff. 86.9 % Losses 13.1 % Exc. air 1.17 Des. Poi. 55 °C</p> | <p>***** * ECOM - EN2 * ***** Date: Time 20.05.16 11:45:05</p> <p>Gas analysis</p> <p>Fuel type Natural Gas</p> <p>T.Air 45 °C T.Gas 122 °C O2 3.0 % CO 0 PPM NO 48 PPM NOx 50 PPM SO2 0 PPM CO2 10.0 % Eff. 86.7 % Losses 13.1 % Exc. air 1.12 Des. Poi. 55 °C</p> | <p>***** * ECOM - EN2 * ***** Date: Time 20.05.16 11:45:47</p> <p>Gas analysis</p> <p>Fuel type Natural Gas</p> <p>T.Air 46 °C T.Gas 137 °C O2 2.8 % CO 0 PPM NO 49 PPM NOx 51 PPM SO2 0 PPM CO2 10.1 % Eff. 86.5 % Losses 13.5 % Exc. air 1.15 Des. Poi. 55 °C</p> | <p>***** * ECOM - EN2 * ***** Date: Time 20.05.16 11:46:50</p> <p>Gas analysis</p> <p>Fuel type Natural Gas</p> <p>T.Air 51 °C T.Gas 140 °C O2 2.1 % CO 0 PPM NO 51 PPM NOx 54 PPM SO2 0 PPM CO2 10.5 % Eff. 85.8 % Losses 13.7 % Exc. air 1.11 Des. Poi. 56 °C</p> | <p>***** * ECOM - EN2 * ***** Date: Time 20.05.16 11:51:11</p> <p>Gas analysis</p> <p>Fuel type Natural Gas</p> <p>T.Air 51 °C T.Gas 150 °C O2 2.0 % CO 0 PPM NO 51 PPM NOx 54 PPM SO2 0 PPM CO2 10.6 % Eff. 85.8 % Losses 14.2 % Exc. air 1.11 Des. Poi. 56 °C</p> |

Pressure Test results



II. Solutions for Industrial Heat Applications

2. ecom flue gas analysers in the field



HUYNH BANG



II. Solutions for Industrial Heat Applications

2. ecom proven use in the field.



HUYNH BANG



II. Solutions for Industrial Heat Applications

2. ecom instruments critical for burner commissioning and troubleshooting



HUYNH BANG

ecom-EN3



ecom-EN2



ecom-LSG

ecom-LSG



ecom-UNO
Pressure measurement

II. Solutions for Industrial Heat Applications

3. Bosch Industrial Boilers located in Gunzenhausen (Germany)



HUYNH BANG



II. Solutions for Industrial Heat Applications

3. Bosch Industrial Boilers



HUYNH BANG



Approx. **1400**
customer-specific
industrial boiler systems
per year



Approx. **700** associates
at Bosch Industrial in
Germany and Austria



Delivery in more than
140 countries worldwide

II. Solutions for Industrial Heat Applications

3. Bosch Industrial Boilers Portfolio



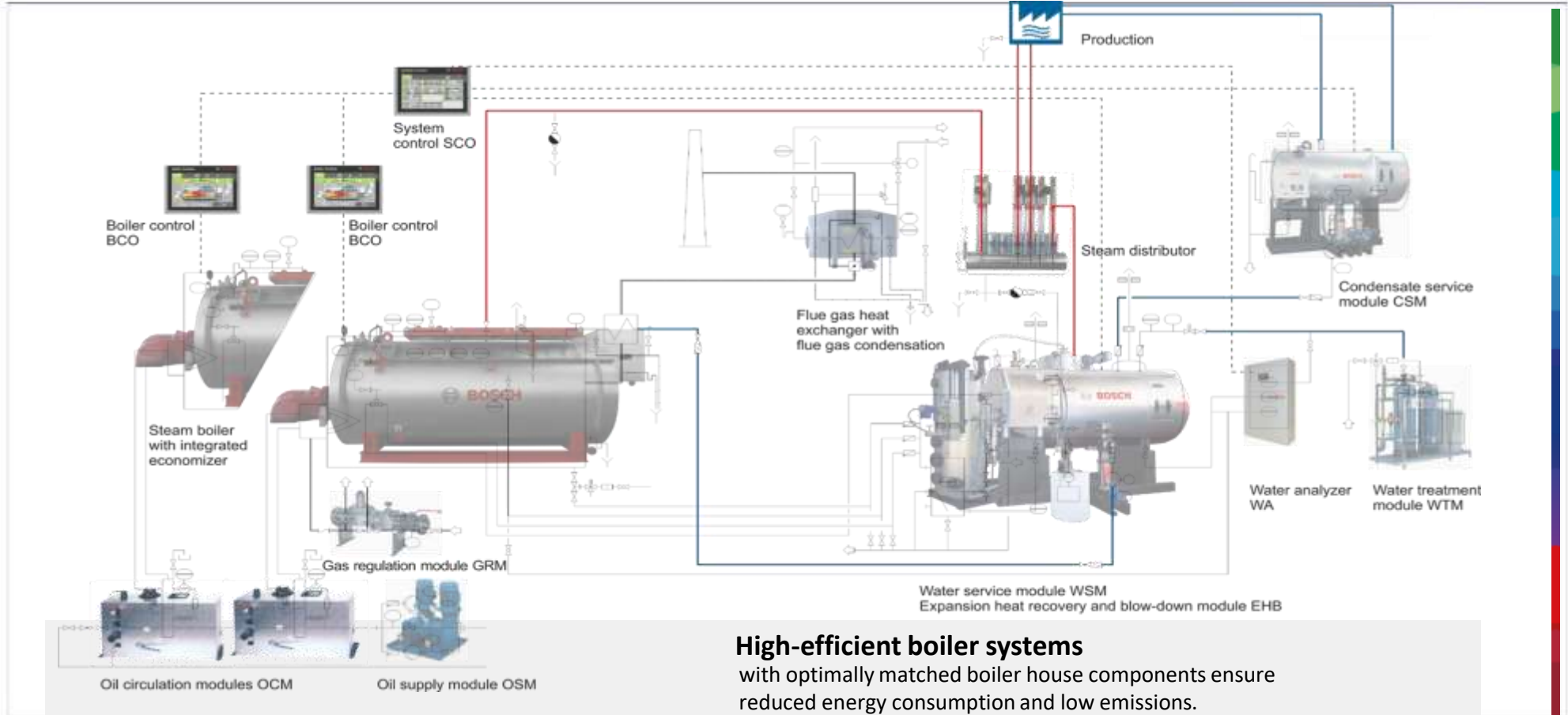
| | Industrial boilers | Efficiency | Components | Controls | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|---|-------------|-------------|-------------|------------|-----------|---------|----------|-----------|-------------|-------------|------------------|------------|-----------|------------------|--------|------------------|--------|--------|--------|--------|--|---|---|--------|--------|--------|--------|--|--|
| Heating / Hot water | <table border="1"> <thead> <tr> <th></th> <th>UT-L</th> <th>UT-M</th> <th>UT-H</th> <th>UT-HZ</th> </tr> </thead> <tbody> <tr> <td>Output</td> <td><1-25 MW</td> <td><1-19 MW</td> <td><1-18 MW</td> <td>13-38 MW</td> </tr> <tr> <td>T_{max}</td> <td>120 °C</td> <td>190 °C</td> <td>225 °C</td> <td>225 °C</td> </tr> <tr> <td>P_{max}</td> <td>16 bar</td> <td>16 bar</td> <td>30 bar</td> <td>30 bar</td> </tr> </tbody> </table> | | UT-L | UT-M | UT-H | UT-HZ | Output | <1-25 MW | <1-19 MW | <1-18 MW | 13-38 MW | T _{max} | 120 °C | 190 °C | 225 °C | 225 °C | P _{max} | 16 bar | 16 bar | 30 bar | 30 bar | <p>Waste heat recovery boilers for steam / hot water</p> <p>Waste heat recovery steam boiler</p> <p>3-pass boiler without burner</p> <p>4-pass boiler with burner</p> | <p>Hydraulics e.g. pump modules</p> <p>Modules for: Water (+2%)</p> <p>Condensate (+12%)</p> <p>Steam</p> <p>Fuel</p> | <p>Intelligent control technology: Boiler controls and boiler system controls Efficiency assistant and remote access</p> | | | | | | |
| | | UT-L | UT-M | UT-H | UT-HZ | | | | | | | | | | | | | | | | | | | | | | | | | |
| Output | <1-25 MW | <1-19 MW | <1-18 MW | 13-38 MW | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T _{max} | 120 °C | 190 °C | 225 °C | 225 °C | | | | | | | | | | | | | | | | | | | | | | | | | | |
| P _{max} | 16 bar | 16 bar | 30 bar | 30 bar | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Steam / Process heat | <table border="1"> <thead> <tr> <th></th> <th>U-MB</th> <th>CSB</th> <th>ELSB</th> <th>UL-S(X)</th> <th>ZFR(-X)</th> </tr> </thead> <tbody> <tr> <td>Output</td> <td>0.2-2 t/h</td> <td>0.3-4.8 t/h</td> <td>0.3-5.2 t/h</td> <td>0.3-7.5 t/h</td> <td>1.2-28 t/h</td> <td>18-55 t/h</td> </tr> <tr> <td>T_{max}</td> <td>204 °C</td> <td>110 °C</td> <td>204 °C</td> <td>220 °C</td> <td>300 °C</td> <td>300 °C</td> </tr> <tr> <td>P_{max}</td> <td>6 bar</td> <td>0.5 bar</td> <td>16 bar</td> <td>24 bar</td> <td>30 bar</td> <td>30 bar</td> </tr> </tbody> </table> | | U-MB | CSB | ELSB | UL-S(X) | ZFR(-X) | Output | 0.2-2 t/h | 0.3-4.8 t/h | 0.3-5.2 t/h | 0.3-7.5 t/h | 1.2-28 t/h | 18-55 t/h | T _{max} | 204 °C | 110 °C | 204 °C | 220 °C | 300 °C | 300 °C | P _{max} | 6 bar | 0.5 bar | 16 bar | 24 bar | 30 bar | 30 bar | <p>Energy efficiency Recovery & utilisation</p> <p>+2.5%</p> <p>+7%</p> | <p>Modernisation and service</p> <p>24/7 service worldwide From commissioning and maintenance to expert training</p> <p>Upgrade of existing plants Project planning & modular system technology</p> |
| | U-MB | CSB | ELSB | UL-S(X) | ZFR(-X) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Output | 0.2-2 t/h | 0.3-4.8 t/h | 0.3-5.2 t/h | 0.3-7.5 t/h | 1.2-28 t/h | 18-55 t/h | | | | | | | | | | | | | | | | | | | | | | | | |
| T _{max} | 204 °C | 110 °C | 204 °C | 220 °C | 300 °C | 300 °C | | | | | | | | | | | | | | | | | | | | | | | | |
| P _{max} | 6 bar | 0.5 bar | 16 bar | 24 bar | 30 bar | 30 bar | | | | | | | | | | | | | | | | | | | | | | | | |

II. Solutions for Industrial Heat Applications

3. Bosch high-efficient Boiler Systems



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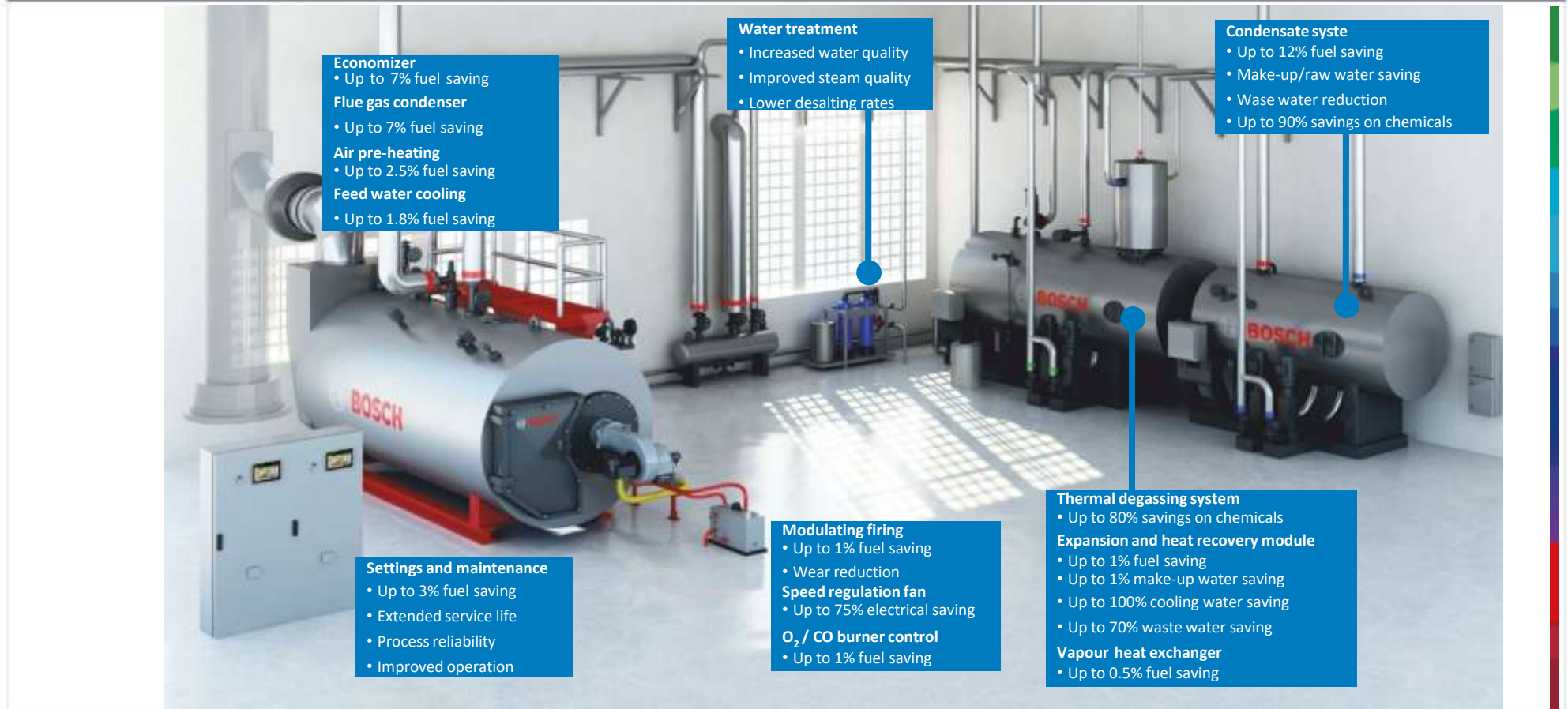


II. Solutions for Industrial Heat Applications

3. Bosch boiler house components, efficiency components and controls



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II. Solutions for Industrial Heat Applications

3. Bosch universal steam boiler type UL-S



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COMPANY

Universal steam boiler UL-S / UL-SX

The UL-S is a highly efficient steam boiler with a three-pass design for 1,250 to 28,000 kg/h of steam at up to 30 bar.

With impressively low emissions and its ability to be converted for biofuels or hydrogen, the UL-S is designed to be future-proof.

II. Solutions for Industrial Heat Applications

3. Bosch Steam Boiler UL-S: Benefits at a glance



- Very high efficiency in all output ratings for low running costs and emissions
- Complete system with customer-specific equipment
- Future-proof technology with options for hydrogen, biogas and bio-oil
- Extremely well proven design “Made in Germany”, highly durable and easy to maintain
- Consistent steam quality for reliable supply
- Custom designs available for heat recovery boilers, hybrid or superheated steam
- Smart boiler control and seamless system integration with digital assistants

Technical data of the type UL-S / UL-SX

| | |
|----------------------|---|
| Heat transfer medium | High-pressure saturated steam / superheated steam |
| Design | 3-pass single-flame tube/smoke tube technology |
| Output | 1,250 – 28,000 / 2,600 – 28,000 kg/h |
| Safety pressure | Up to 30 bar |
| Max. temperature | 235 / 300 °C |
| Fuel | Oil, gas, multi-fuel firing, biogas, bio-oil, hydrogen, special fuels |

II. Solutions for Industrial Heat Applications

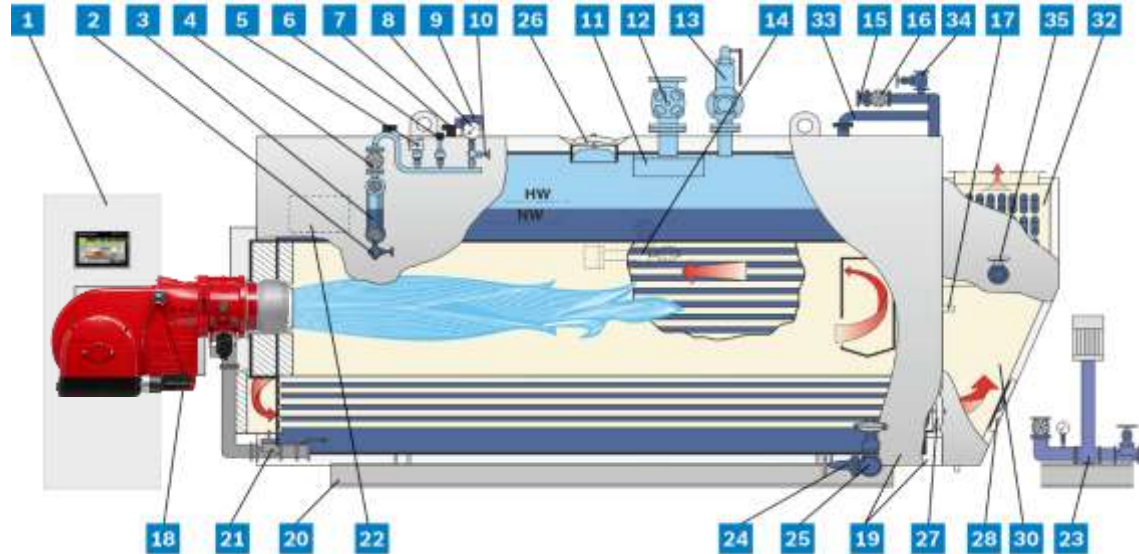
3. Bosch Steam Boiler equipment for UL-S



HUYNH BANG

Legend:

- 1 - Control cabinet with boiler control BCO (compact control CSC for outputs up to 4,000 kg/h as an alternative)
- 2 - Blow-off tap
- 3 - Reflective water level indicator
- 4 - Manostat tube shut-off valve, maintenance-free
- 5 - Pressure limiter
- 6 - Pressure transducer (4-20 mA)
- 7 - Low-level limiter electrode
- 8 - Pressure gauge
- 9 - Level transducer (4-20 mA)
- 10 - Pressure gauge shut-off valve with testing
- 11 - Steam dryer
- 12 - Steam removal valve
- 13 - Full-lift safety valve
- 14 - Fully automatic conductivity measurement and desalting
- 15 - Feed water non-return valve
- 16 - Feed water shut-off valve, maintenance-free
- 17 - Sight hole
- 18 - Burner**
- 19 - Insulation with protective shell
- 20 - Base frame
- 21 - Gas regulation module (gas valve train)
- 22 - Terminal box
- 23 - Pump module



- 24 - Drain shut-off valve, maintenance-free
- 25 - Quick shut-off blow-down valve
- 26 - Inspection opening, steam side
- 27 - Inspection opening, water side
- 28 - Inspection opening, flue gas side
- 30 - Flue gas collection chamber
- 32 - Flue gas heat exchanger ECO
- 33 - Connection piping ECO/boiler
- 34 - Vent shut-off valve ECO
- 35 - Drain shut-off valve ECO (draining)

II. Solutions for Industrial Heat Applications

3. Bosch Quality Manufacturing – Four Points



HUYNH BANG



Precision in ideal position

Boilers up to 120 t can be rotated safely and manufactured in ideal position



Use of welding robots for highest precision

No tool-change related positioning errors

Fully automatic tube measurement / LiB sensor technology



Less weld seams increase quality

Specialised production equipment for metal plates up to 3.5 m width



Certified experts

Our nearly 200 boiler welders have more than 1,000 welding exam qualifications

Quality control

by X-ray in every production line (3 plants)

Around 25,000 developed films per year



II. Solutions for Measurement & Automation Applications

1. VEGA Headquarters in Schiltach, Germany



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THIS IS HOW IT
LOOKS AT **VEGA**



Headquarters in *Schiltach*,
Germany

1,150  Employees
in Schiltach

 60
Trainees

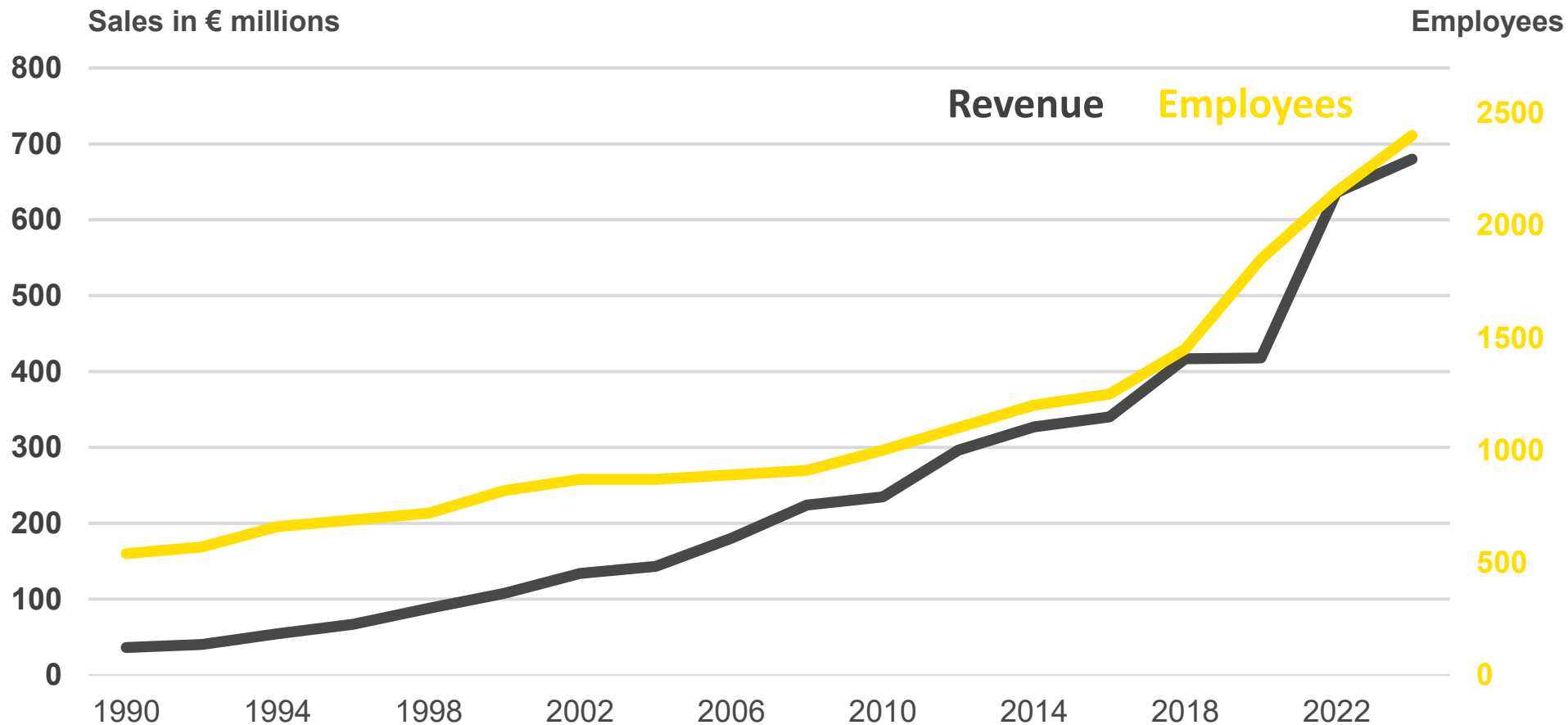
WORLDWIDE  2,400 EMPLOYEES

supfina

grieshaber
PRECISION

VEGA

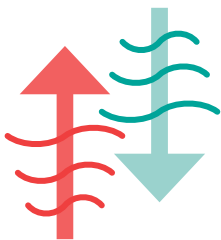
Focussed on long-term development



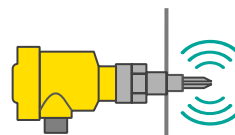


Product portfolio

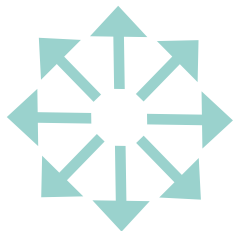
We produce measurement



Level measurement



Level detection

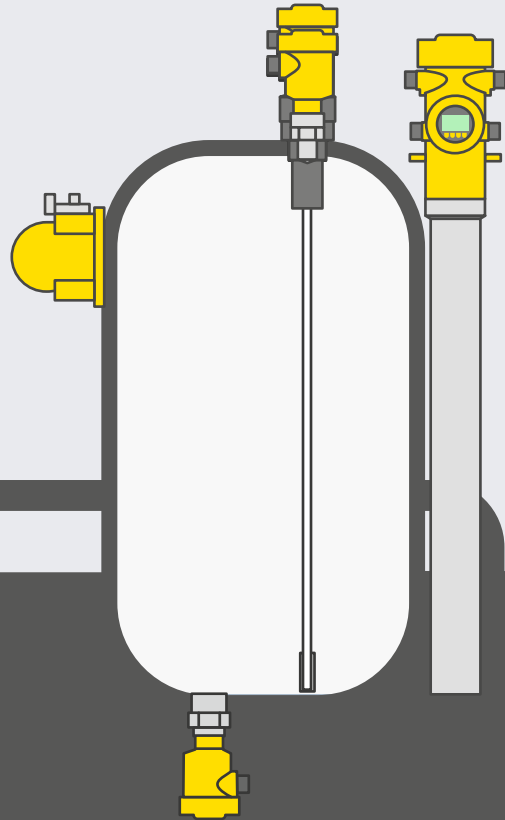


Pressure measurement



Control units & communication

Continuous level measurement



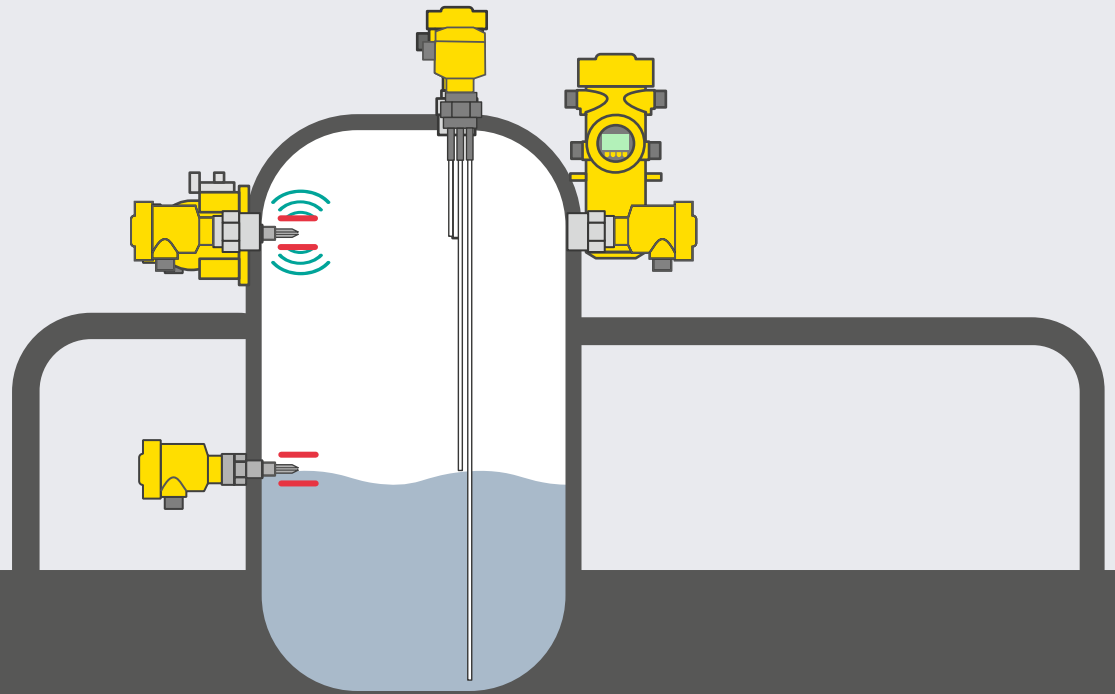
THE MEASUREMENT METHODS

- Radar
- Guided Radar
- Capacitive
- Radiometric
- Hydrostatic
- Ultrasonic

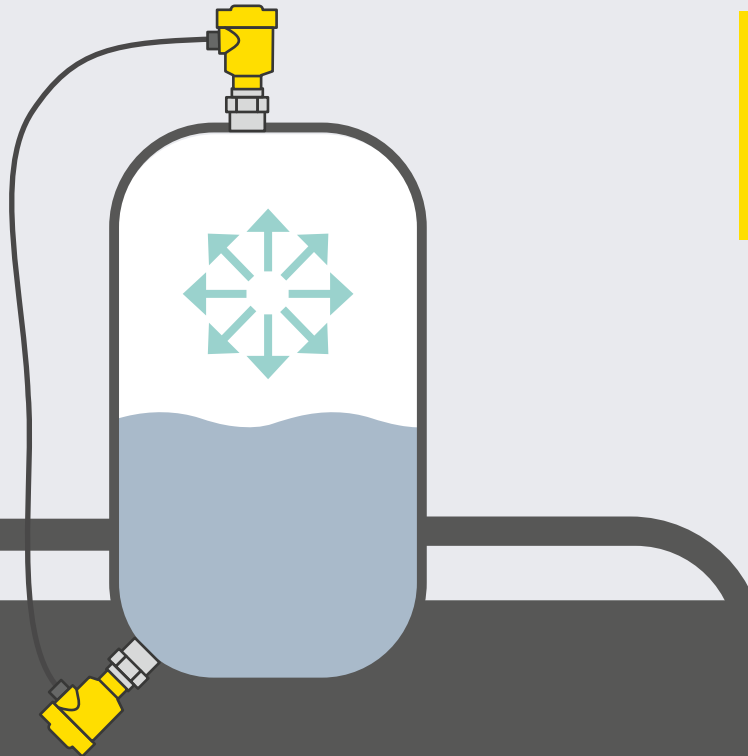
Safe level detection

THE MEASUREMENT METHODS

- Vibration
- Conductive
- Capacitive
- Radar
- Radiometric



Universal pressure measurement

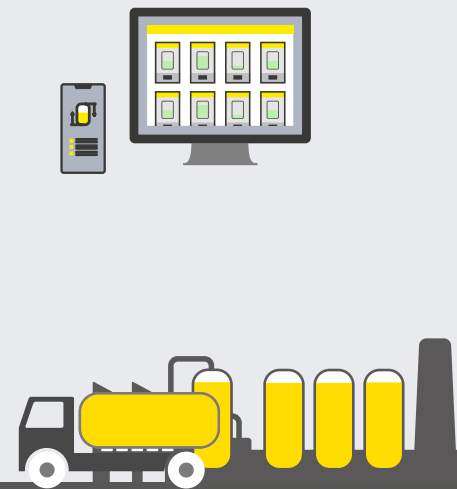
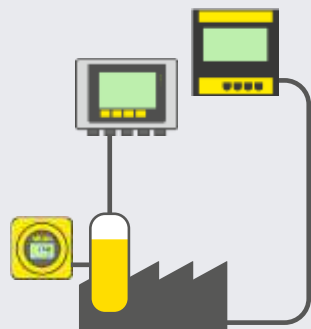


THE MEASUREMENT METHODS

- Process pressure
- Hydrostatic
- Differential pressure

Smart communication

- VEGAMET / VEGASCAN
- VEGATOR / VEGATRENN
- VEGADIS
- 4...20 mA / HART / Profibus PA / Foundation Fieldbus
- Ethernet
- Bluetooth
- NB-IoT / LoRa
- VEGA Inventory System





Industrial sectors

II. Solutions for Measurement & Automation Applications



HUYNH BANG

1. VEGA can provide measuring instruments perfectly adapted to the conditions of any application.



Water & wastewater



Energy



Chemical



Ore mining & metal extraction



Building materials



Food industry



Oil & gas offshore



Petrochemical



Paper



Shipbuilding



Pharmaceutical industry



Environment & recycling



II. Solutions for Measurement & Automation Applications

1. VEGA in Food & Beverage Industry - Hygienically flawless



HUYNH BANG

COMPANY



Hygienic right from the start

- Expertly designed
- Perfect cleanability
- Standardised hygienic adapters

Reliable processes – consistent product quality

- EC 1935/2004, FDA, EHEDG, 3A compliant



GB Standards



II. Solutions for Measurement & Automation Applications



HUYNH BANG

1. VEGA for the strictest requirements

Wear and maintenance free

- Despite extreme influence from cold, heat and wind

Robust housing and sensor technology

- Resistant to seawater, abrasive bulk solids, etc.



II. Solutions for Measurement & Automation Applications

1. VEGA - Absolutely reliable under changing conditions.



HUYNH BANG

COMPANY



Diverse media properties

- Corrosive or creep-prone, high or low viscosity
- Adhesive or volatile, cryogenic or boiling

Reliable measurement data

- The focus is on the safety of the staff as well as the plant, even in 24-hour operation

II. Solutions for Measurement & Automation Applications

1. VEGA references in Vietnam



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II. Solutions for Measurement & Automation Applications



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1. VEGA references in Vietnam



II. Solutions for Measurement & Automation Applications

1. VEGA references in Vietnam



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VEGA

II. Solutions for Measurement & Automation Applications

1. VEGA references in Vietnam



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II. Solutions for Measurement & Automation Applications

1. VEGA references in Vietnam



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1. VEGA references in Vietnam



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II. Solutions for Measurement & Automation Applications

1. VEGA references in Vietnam



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II. Solutions for Measurement & Automation Applications

2. JUMO Headquarters in Fulda, Germany



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II. Solutions for Measurement & Automation Applications

2. JUMO Sensor Solutions - Precision in Measurement



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Temperature



Liquid analysis



Pressure



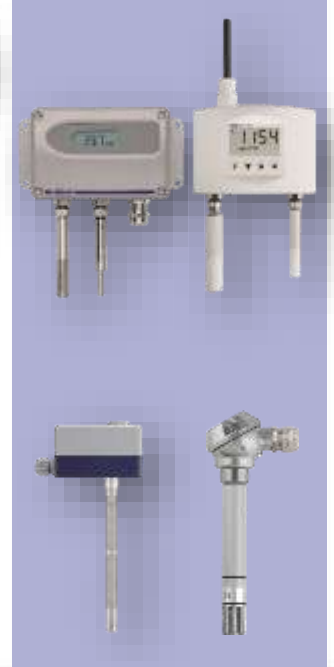
Level



Flow



Humidity



II. Solutions for Measurement & Automation Applications

2. JUMO Automation Solutions



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Control



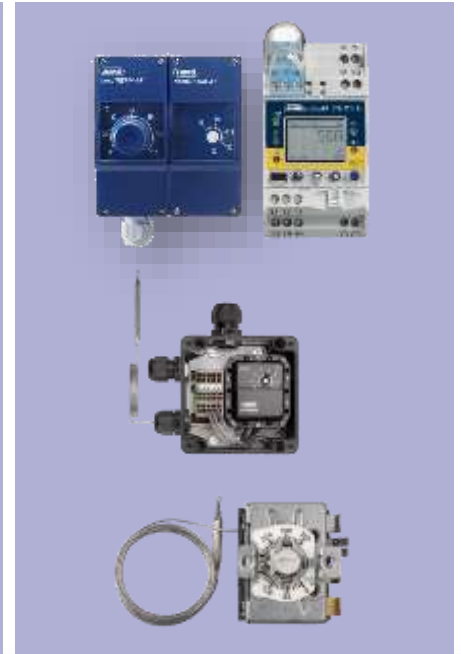
Recording



Automation



Monitoring



II. Solutions for Measurement & Automation Applications



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2. JUMO references



II. Solutions for Measurement & Automation Applications

2. JUMO references



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COMPANY



II. Solutions for Measurement & Automation Applications

2. JUMO references



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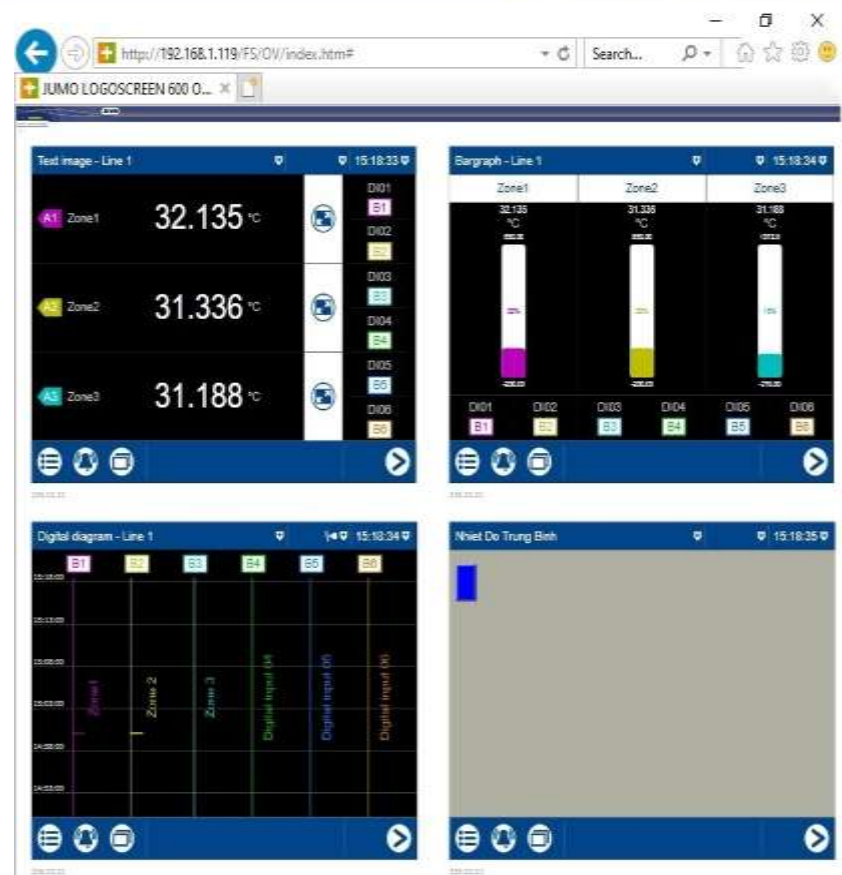


II. Solutions for Measurement & Automation Applications

2. JUMO references



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II. Solutions for Measurement & Automation Applications

2. JUMO references



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II. Solutions for Measurement & Automation Applications

3. Optris: Non-contact infrared Temperature Measurement



HUYNH BANG



Fields of application

WHEN TEMPERATURE MATTERS

- Metal
- Plastic
- Glass

- Electronics
- Food
- Pharmacy
- Safety
- ...
- Almost everywhere



VIDEO

Fields of application

PROCESS OPTIMIZATION VIA TEMPERATURE MONITORING



Metal industry

Our non-contact measuring sensors are now indispensable in the production and processing of metal.



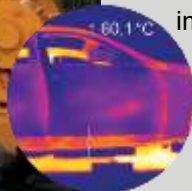
Glass industry

Our glass thermometers and IR cameras are optimally suited to non-contact temperature measurement of glass surfaces and use innovative double lasers to indicate the exact measurement spot.



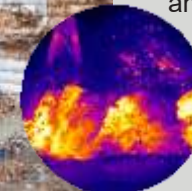
Automotive industry

In order to guarantee flawless product quality, Optris provides efficient solutions for process temperature monitoring and optimization using infrared thermometers and thermal imaging cameras.



Safety

Early fire detection with infrared cameras and infrared thermometers is an important protective measure in the industry designed to avert irreparable damage in industrial plants and buildings. Hence surfaces can be observed 24/7 and protective measures can automatically be introduced via process technology.



Fields of application

PROCESS OPTIMIZATION VIA TEMPERATURE MONITORING



Semiconductor industry

Continuous monitoring and process optimization is vital in the solar and semiconductor industry.



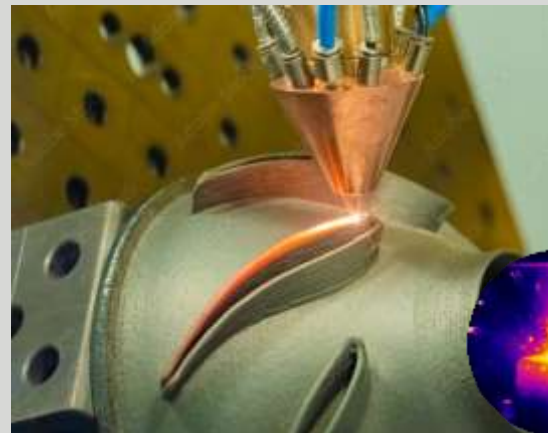
Plastics industry

Optris has the perfect solutions for non-contact measurement of temperatures in the injection molding process, in PET bottle manufacturing or for thermoforming films.



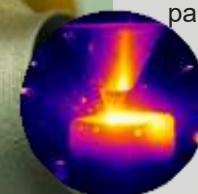
Medical/ biological science

Our infrared thermometers and thermal imaging cameras are used by both the manufacturers of medical devices and medical professionals themselves.



3D Printing & Additive Manufacturing

Monitoring and temperature regulation during each process phase of 3D printing and additive manufacturing is crucial for production of high-quality parts. If the temperature is controlled throughout, welding defects can be prevented and failures avoided. This allows corrections to be made to welding parameters during the process.



■ Infrared cameras



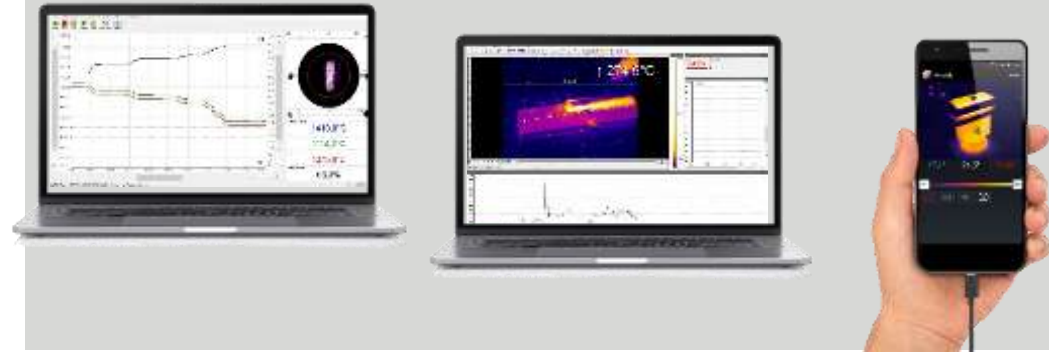
■ Infrared thermometers



■ Accessories



■ Software/ Apps

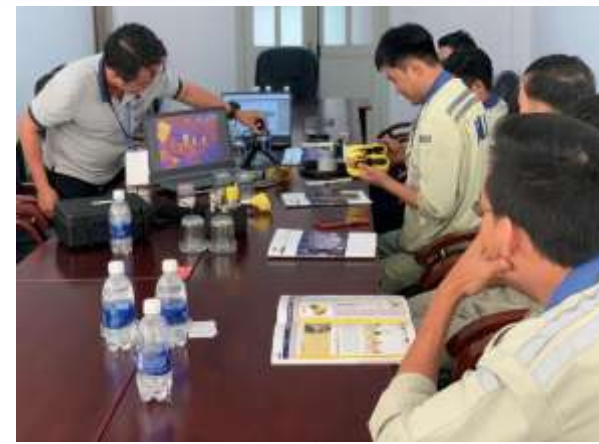


II. Solutions for Measurement & Automation Applications

3. Optris: Non-contact infrared Temperature Measurement



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II. Solutions for Measurement & Automation Applications

3. Optris: Non-contact infrared Temperature Measurement



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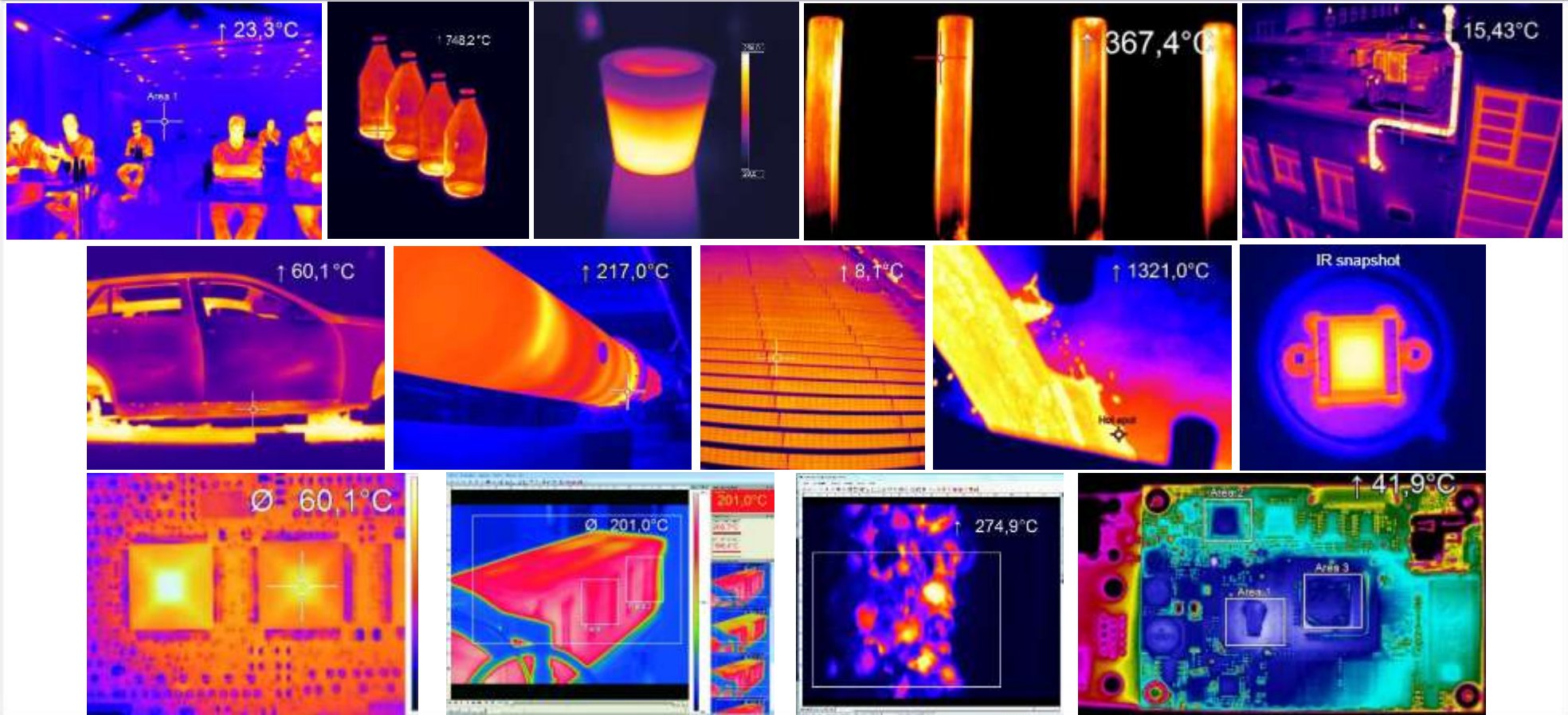


II. Solutions for Measurement & Automation Applications



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3. Optris thermal images



II. Solutions for Measurement & Automation Applications

4. KEM Headquarters in Karlsfeld and Factory in Bad Kötzing, Germany



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COMPANY



**made
in
Germany**

KEM

II. Solutions for Measurement & Automation Applications



HUYNH BANG
COMPANY

4. KEM specializes in TRICOR mass flow meters and mechanical meters incl. transmitters and amplifiers



TRICOR Coriolis Mass Flow Meters | TCM Series

The TCM CLASSIC Series of Coriolis Mass Flow Meters meets general industrial requirements with out-of-the-box ease of use



Gear Flow Meters | ZHM

For lubricating and non-lubricating liquids



Turbine Flow Meters | HM

Measure continuous and discontinuous flow rates



Helical Flow Meters | SRZ

For high-viscosity and abrasive media



made in Germany

TRICOR Coriolis Evaluation Electronics



Pickups and amplifiers



Evaluation Electronics

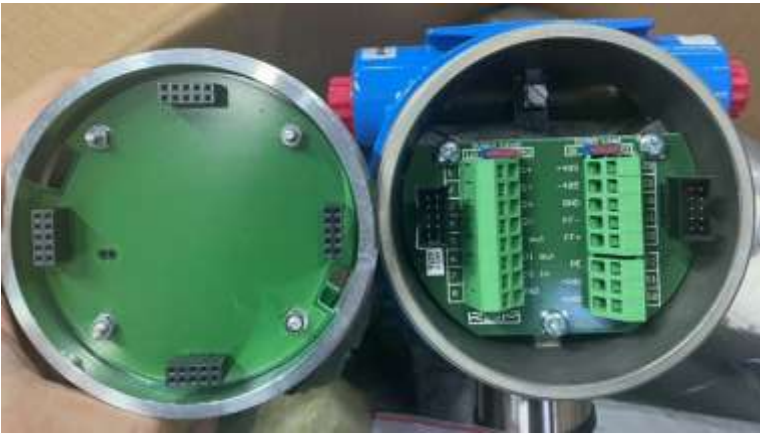


II. Solutions for Measurement & Automation Applications

4. KEM references



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made in Germany



II. Solutions for Measurement & Automation Applications



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4. KEM references



II. Solutions for Measurement & Automation Applications

4. KEM references










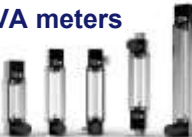

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II. Solutions for Measurement & Automation Applications

5. Vögtlin Instruments GmbH – Gas flow technology – Headquarter in Muttenz - Switzerland



| Vögtlin Product Family's | | | Representative Applications | | COMPANY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|--|--|---|--|--|--|--|----------|--|--|--|-----|-----|----------------|-----------|----------------|----------|-------------------------------|--------|----|-------|-------------------------------|------------------|----|--------|-------------------------------|------------------------------|-----------------|----------------|--------------------|---------------------------------|----|-----------------|----|---------|-----------------|---------|------------------|---------------|-------------------------------|---------|----|------|----------------|----------|-------------------------------|--------------------|-------------------------------|---------------|-----------------|---------------------|--------------------------------|--------|-----------------|------------------------------|
| Smart MFM/MFC  | Compact MFM  | Pin AA  | Life Science Bio industry Vial manufacturing | Industrial/ Production Automotive welding/soldering Light bulb manufacturing | <table border="1"> <thead> <tr> <th colspan="4">Gas type</th> </tr> </thead> <tbody> <tr> <td>Air</td> <td>Air</td> <td>D₂</td> <td>Deuterium</td> </tr> <tr> <td>N₂</td> <td>Nitrogen</td> <td>C₂H₆</td> <td>Ethane</td> </tr> <tr> <td>Ar</td> <td>Argon</td> <td>C₂H₄</td> <td>Ethene, Ethylene</td> </tr> <tr> <td>He</td> <td>Helium</td> <td>C₂F₆</td> <td>Hexafluoromethane, Freon 116</td> </tr> <tr> <td>CO₂</td> <td>Carbon dioxide</td> <td>CHClF₂</td> <td>Chlorodifluoromethane, Freon-22</td> </tr> <tr> <td>CO</td> <td>Carbon monoxide</td> <td>Kr</td> <td>Krypton</td> </tr> <tr> <td>CH₄</td> <td>Methane</td> <td>N₂O</td> <td>Nitrous oxide</td> </tr> <tr> <td>C₃H₈</td> <td>Propane</td> <td>Ne</td> <td>Neon</td> </tr> <tr> <td>H₂</td> <td>Hydrogen</td> <td>C₃H₆</td> <td>Propene, propylene</td> </tr> <tr> <td>C₄H₆</td> <td>1,3-Butadiene</td> <td>SF₆</td> <td>Sulfur hexafluoride</td> </tr> <tr> <td>C₄H₁₀</td> <td>Butane</td> <td>CF₄</td> <td>Tetrafluoromethane, Freon-14</td> </tr> </tbody> </table> | | | | Gas type | | | | Air | Air | D ₂ | Deuterium | N ₂ | Nitrogen | C ₂ H ₆ | Ethane | Ar | Argon | C ₂ H ₄ | Ethene, Ethylene | He | Helium | C ₂ F ₆ | Hexafluoromethane, Freon 116 | CO ₂ | Carbon dioxide | CHClF ₂ | Chlorodifluoromethane, Freon-22 | CO | Carbon monoxide | Kr | Krypton | CH ₄ | Methane | N ₂ O | Nitrous oxide | C ₃ H ₈ | Propane | Ne | Neon | H ₂ | Hydrogen | C ₃ H ₆ | Propene, propylene | C ₄ H ₆ | 1,3-Butadiene | SF ₆ | Sulfur hexafluoride | C ₄ H ₁₀ | Butane | CF ₄ | Tetrafluoromethane, Freon-14 |
| Gas type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Air | Air | D ₂ | Deuterium | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| N ₂ | Nitrogen | C ₂ H ₆ | Ethane | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ar | Argon | C ₂ H ₄ | Ethene, Ethylene | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| He | Helium | C ₂ F ₆ | Hexafluoromethane, Freon 116 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CO ₂ | Carbon dioxide | CHClF ₂ | Chlorodifluoromethane, Freon-22 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CO | Carbon monoxide | Kr | Krypton | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CH ₄ | Methane | N ₂ O | Nitrous oxide | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C ₃ H ₈ | Propane | Ne | Neon | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H ₂ | Hydrogen | C ₃ H ₆ | Propene, propylene | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C ₄ H ₆ | 1,3-Butadiene | SF ₆ | Sulfur hexafluoride | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C ₄ H ₁₀ | Butane | CF ₄ | Tetrafluoromethane, Freon-14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Industrial MFM/MFC Ex / IP67  | Hi Flow – DP d-flux  | | Surface treatment Vapour deposition parts Flat glass treatment | R&D/Analytical Analytical equipment Car emission testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Smarttrak MFM/MFC  | OEM Solutions  | | Testing Leak test Flow verification | Material Heat treatment ovens Semiconductor grey market | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VA meters  | Precision Needle Valves  | | Food/Beverage Ice cream manufacturing Beer manufacturing | Energy/Power Consumption Fuel cell development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Semi-conductor Wafer manufacturing and handling, Lithography, Testing | General Fiberglass manufacturing Water Purification | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



MFM – Mass Flow Meter
 MFC – Mass Flow Controller

II. Solutions for Measurement & Automation Applications

5. Vögtlin Instruments GmbH – connecting cable, accessories & phone app.



HUYNH BANG



The new Vögtlin Connect App

| Bluetooth readable / adjustable variables | Read | Write |
|---|------|-------|
| Create & edit profiles (set of settings) | YES | YES |
| Flow range & dynamic range | YES | YES |
| Filter settings | YES | YES |
| Alarms and warnings | YES | YES |
| Analog in/output configuration | YES | YES |
| Function of push button* | YES | YES |
| Read current values | YES | |
| Show Graphs | YES | |
| Totalizer (read, select, reset) | YES | YES |
| Node / slave address setting | YES | YES |
| I/O for external valve on / off | YES | YES |
| Restart device | | YES |
| Password protection of unit | YES | YES |
| Factory reset | | YES |
| PID and valve parameters | YES | YES |



GET VÖGTLIN CONNECT ON
Google Play



II. Solutions for Measurement & Automation Applications

5. Vögtlin Instruments GmbH - Applications



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Permeability measurements of concrete



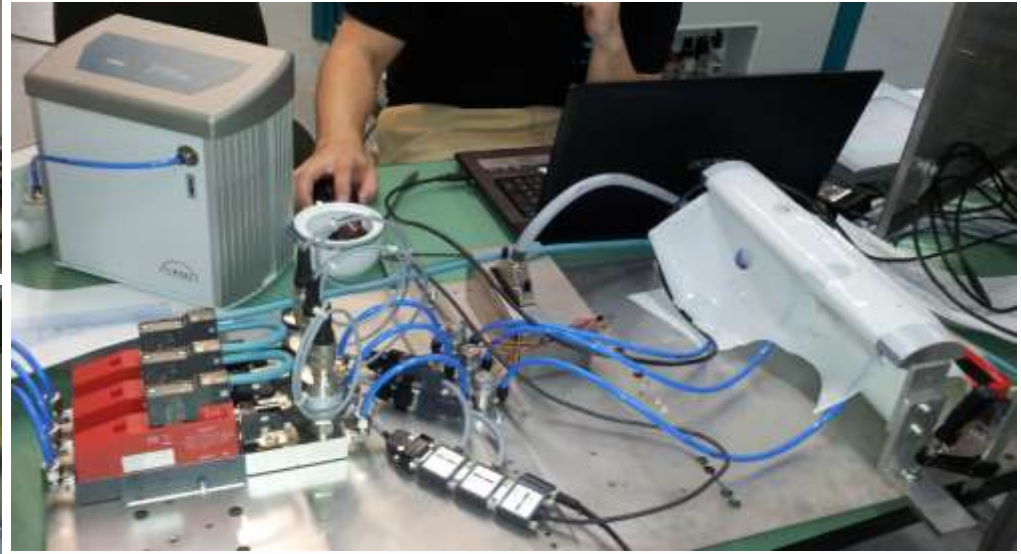
Permeability test of membranes



Test on valves of coffee packaging



Calibration device for reviewing test leaks



II. Solutions for Measurement & Automation Applications

5. Vögtlin Instruments GmbH - Applications



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Inline gas mixer



Mixing block GZB / GRB

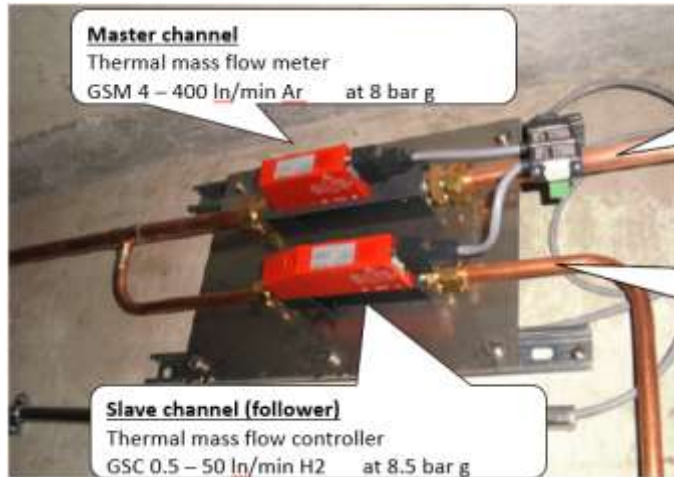


Aluminium billet caster



Master channel

Thermal mass flow meter
GSM 4 – 400 l/min Ar at 8 bar g



Flame control for burners



Aluminium billet caster



II. Solutions for Measurement & Automation Applications

6. Meister Variable Area Flow Meters located in Wiesen, Germany.



HUYNH BANG



- Founded in Germany in 1984
- 100% family owned
- >1 million installations globally
- 40 global distributors

Online Virtual Reality Tour [here](#)



- In-house technology center
- Fully automatic multi-viscosity oil test benches
- Customized calibrations
- Oil- / water- / gas test capabilities



- Variable Area Flowmeters
- No power supply needed
- For all installation angles
- 0.005 l/min – 333 l/min flow range
- Suitable until 160 °C and 350 bar
- Various output signal options

Youtube video [here](#)





- Digital signal output via IO-Link
- Temperature- and pressure signal processing from external analog sensors
- Fast and simple wiring
- 2-way and EMC-proof communication
- Remote sensor monitoring

Youtube video [here](#)





- 3D printed flowmeters and other components
- Maximum customization opportunities
- Plastic type material
- Quick prototyping

Youtube video [here](#)





- 3D printing with stainless steel
- Weight reduction
- Maximum design freedom

Youtube video [here](#)



Ihre Vorteile auf einen Blick

- Designfreiheit
- Gewichtreduzierung
- Materialersparnis
- Maßgeschneidert ab Losgröße 1



VERTEILERSYSTEM V001



advantages of using Meister flowmeters



INDUSTRIAL FLOW

Your Partner for Industrial Flow Measurement



II. Solutions for Measurement & Automation Applications

6. Meister Variable Area Flow Meters



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COMPANY



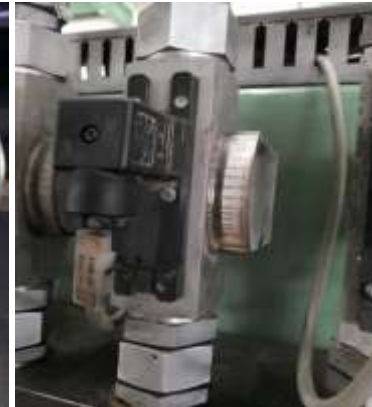
II. Solutions for Measurement & Automation Applications

6. Meister Variable Area Flow Meters



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II. Solutions for Measurement & Automation Applications

7. SCHMIDT® Flow Sensors – Simply a question of better measurement



HUYNH BANG



SCHMIDT®- Flow sensors measure:



Flow velocity



Mass flow



Flow volume and flow rate (Sm³/h, Nm³/h)



Temperature



II. Solutions for Measurement & Automation Applications

7. SCHMIDT® Flow Sensors – Simply a question of better measurement



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For pressured air use

- Consumption Measurement
- Leakage detection
- Compressor control
- Energy - Contracting



For all kinds of industrial processes

- Industrial burners and kilns
- Drying processes
- Supply and exhaust air control
- Exhaust of dusty air and gases
- Volume flow control
- Mass flow control



II. Solutions for Measurement & Automation Applications




7. SCHMIDT® Flow Sensors – Simply a question of better measurement






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COMPANY



For Cleanrooms in

-  Pharmaceutical Industry
-  Food Industry
-  Semiconductor Industry

For the Application in

-  Laminar-flow monitoring
-  Room-overflow monitoring
-  Filter monitoring



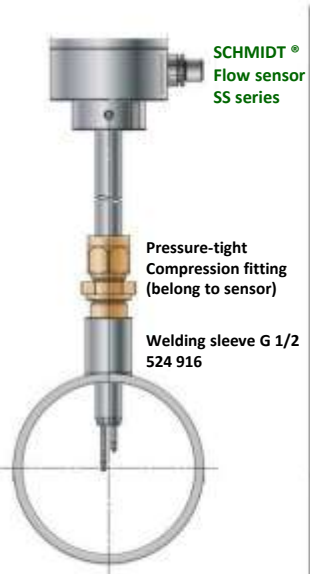
II. Solutions for Measurement & Automation Applications

7. SCHMIDT Technology – Mounting variations



HUYNH BANG

COMPANY

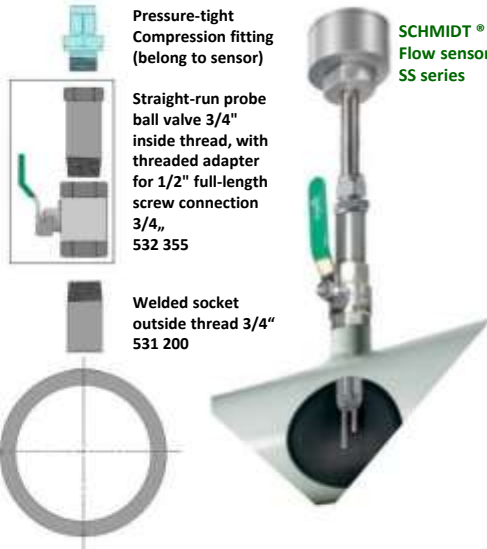


SCHMIDT®
Flow sensor
SS series

Pressure-tight
Compression fitting
(belong to sensor)

Welding sleeve G 1/2
524 916

Variation #1 –
Direct mounting

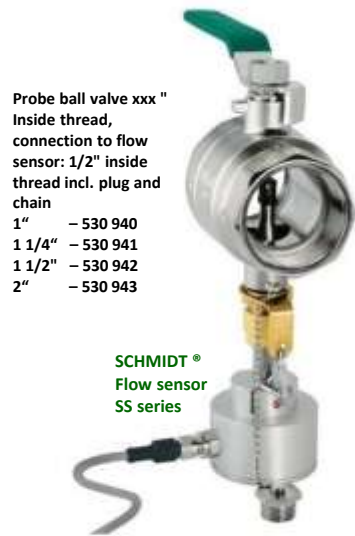


Pressure-tight
Compression fitting
(belong to sensor)

Straight-run probe
ball valve 3/4"
inside thread, with
threaded adapter
for 1/2" full-length
screw connection
3/4,"
532 355

Welded socket
outside thread 3/4"
531 200

Variation #2 –
Mounting on ball valve



SCHMIDT®
Flow sensor
SS series

Probe ball valve xxx "
Inside thread,
connection to flow
sensor: 1/2" inside
thread incl. plug and
chain
1" – 530 940
1 1/4" – 530 941
1 1/2" – 530 942
2" – 530 943

SCHMIDT®
Flow sensor
SS series

Variation #3 –
Mounting into probe ball valve



Connecting cable, 8 pole, length 5m,
with coupler socket and open cable
524 921



SCHMIDT® LED display MD 10.015:
in wall-mounted housing to show the volume
flow and flow velocity, 85...230V AC and sensor
supply with additional sum function and second
measuring input
527 330

Connecting cable, LED display &
pipe assembly kit



Assembly kit for pipe assembly,
suitable for MD 10.010 / 10.015,
including pipe clamps and collar for
adjustment to the pipe diameter
531 394

II. Solutions for Measurement & Automation Applications

7. SCHMIDT Technology references



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II. Solutions for Measurement & Automation Applications

9. CANTY Process Technology – „Eyes in the Process“



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COMPANY



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Fax: (716) 625 - 4228

Email: sales@jmcanty.com

J.M. Canty, LTD
Ballycoolin Business Park
Blanchardstown
Dublin 15, Ireland
Phone: +353 (01) 882-9621
Fax: +353 (01) 882-9622

Email: sales.ie@jmcanty.com

II. Solutions for Measurement & Automation Applications

9. CANTY High Temperature Camera Systems



HUYNH BANG

COMPANY

UltraTemp Camera

Process Temp: **1370°C**
NO LENS COOLING REQUIRED
NO RETRACTION SYSTEM REQUIRED
12", 24" or 36" Insertion



ExtremeTemp Camera

Process Temp: **1650°C**
LIMITED LENS COOLING REQUIRED
NO RETRACTION SYSTEM REQUIRED
12", 24" or 36" Insertion

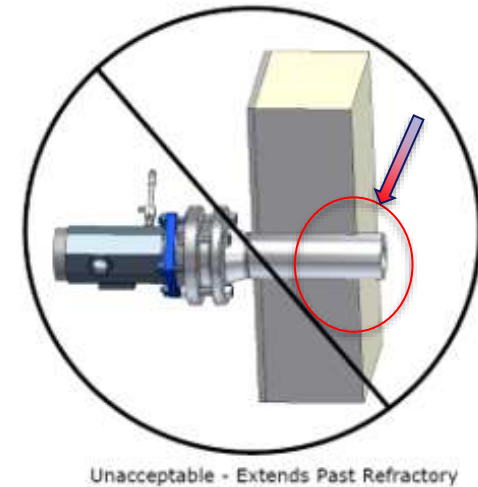
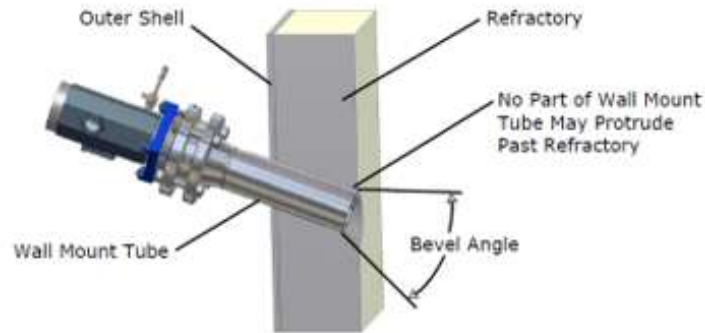
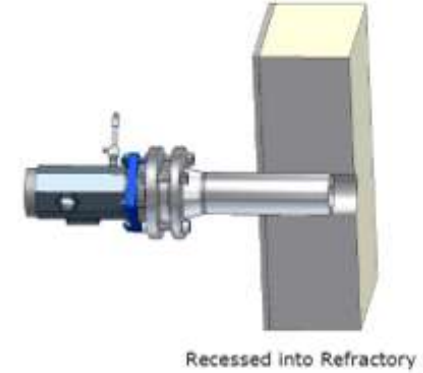
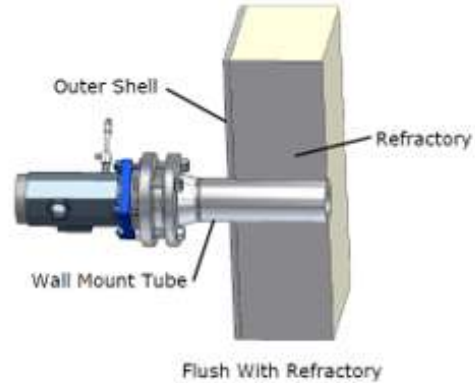


II. Solutions for Measurement & Automation Applications

9. CANTY High Temperature Camera Systems



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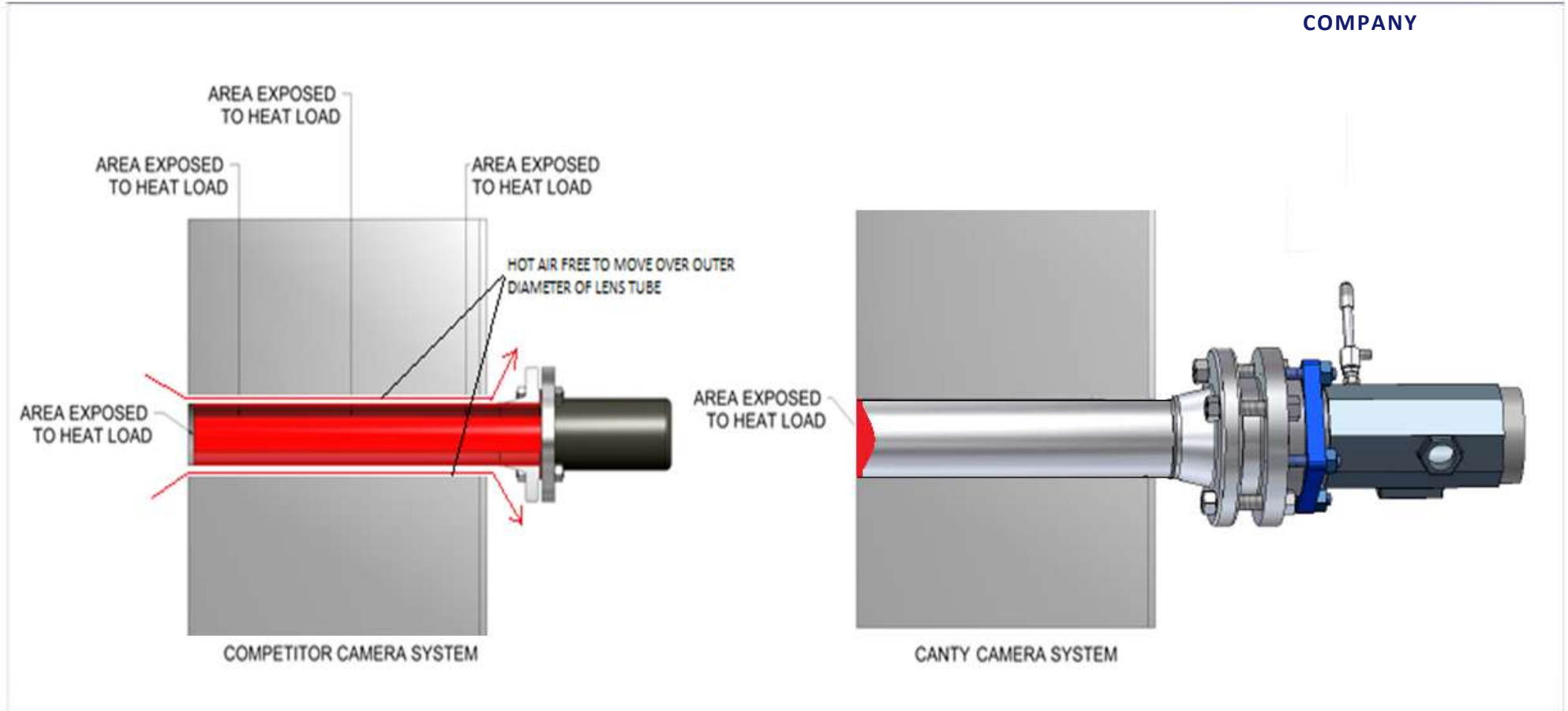
II. Solutions for Measurement & Automation Applications

9. CANTY High Temperature Camera Systems



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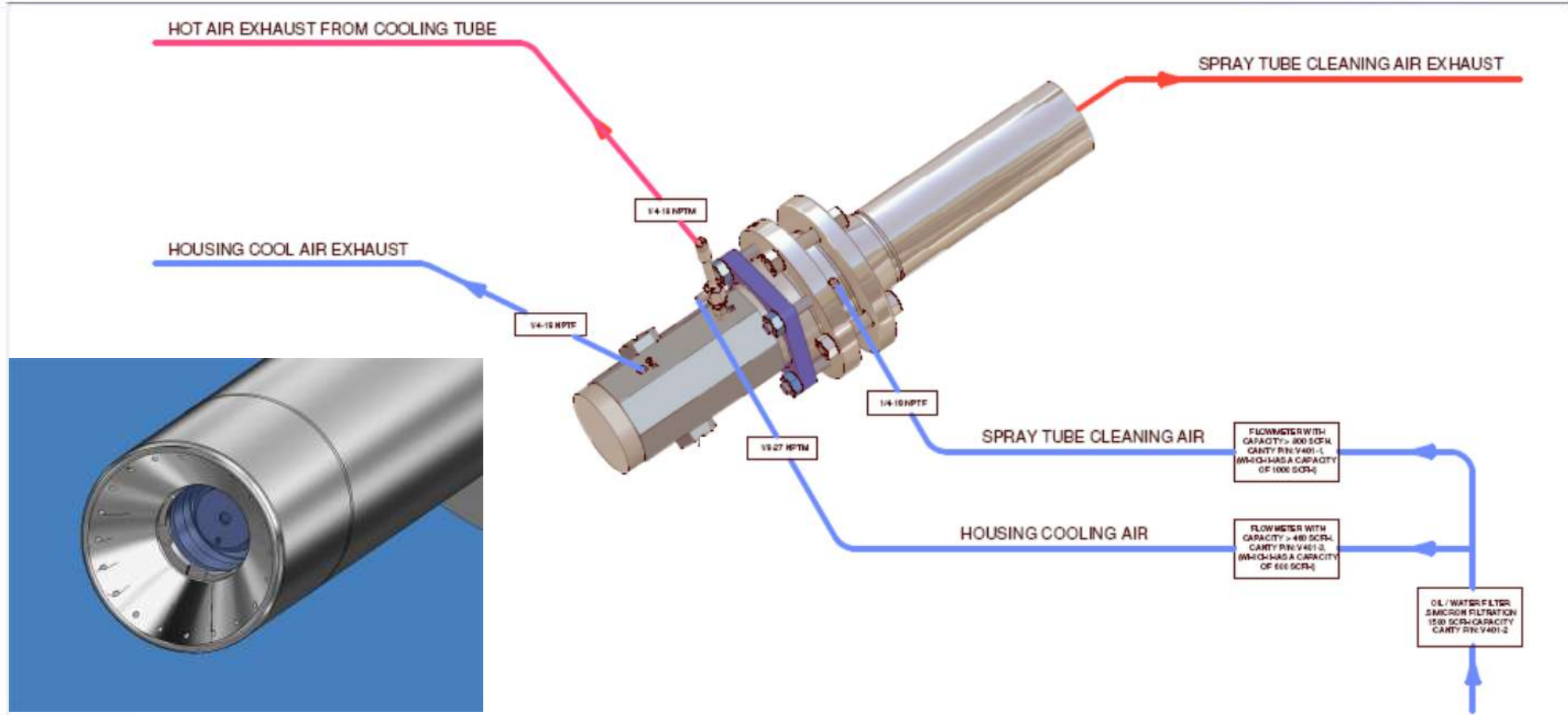


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9. CANTY High Temperature Camera Cleaning / Cooling Air Layout



II. Solutions for Measurement & Automation Applications

9. CANTY High Temperature Camera Systems



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II. Solutions for Measurement & Automation Applications

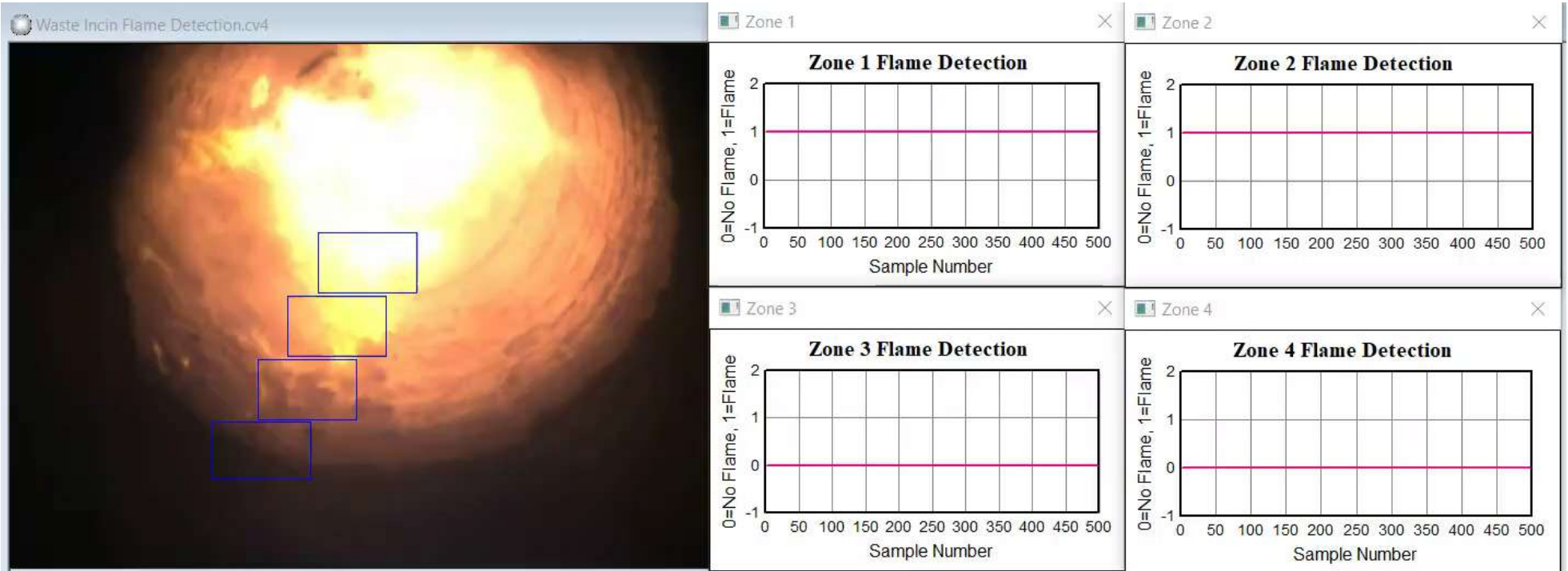
9. CANTY High Temperature Camera Flame Detection



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Video - flame detection in waste incinerator



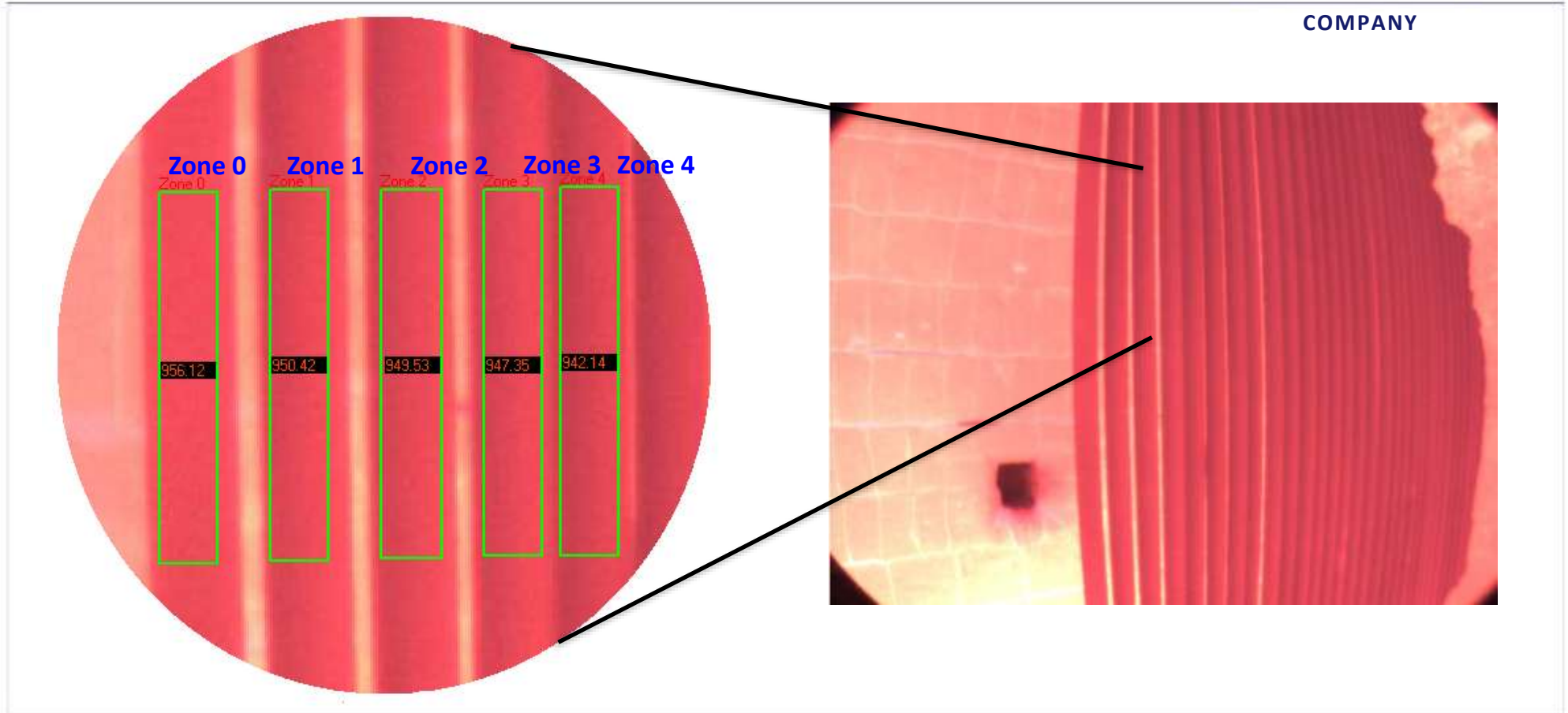
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9. CANTY High Temperature Camera for Cracking Furnace – Tube Metal Temperature



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II. Solutions for Measurement & Automation Applications

9. CANTY Equipment for Dry Particle Size & Shape



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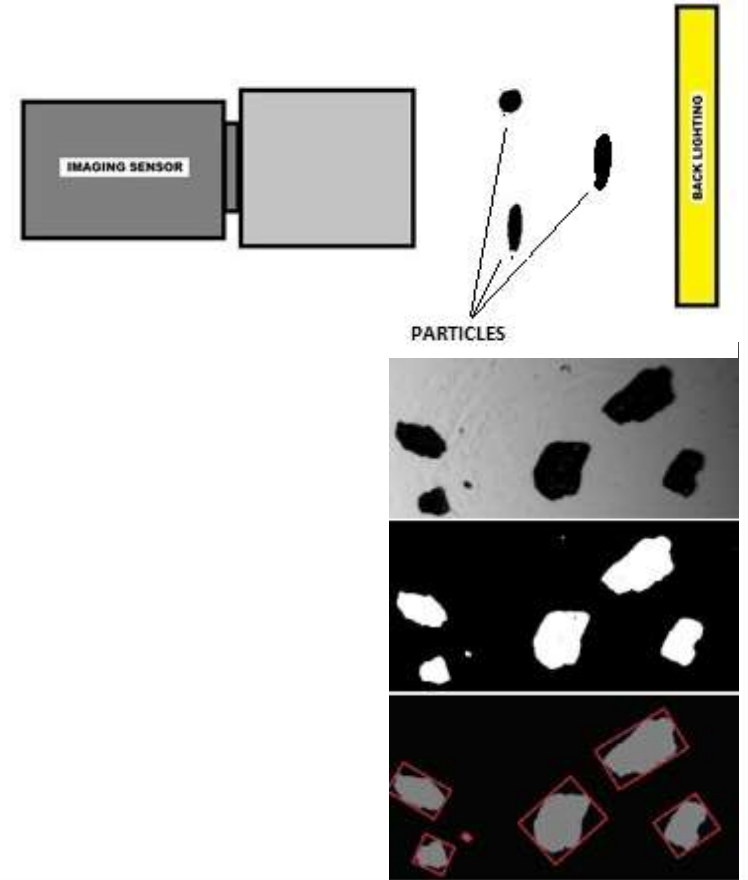
II. Solutions for Measurement & Automation Applications

9. CANTY Vision Based Particle Size Analysis – Fundamental Principle

JM Canty's vision based technique works on the basic principle of presenting the product between micro / macroscopic optics and a high intensity light source (back lighting)

The captured images are then sent to CantyVision Software for analysis, where the particulate is measured under a number of size and shape parameters.... Major axis, minor axis, circularity, aspect ratio....

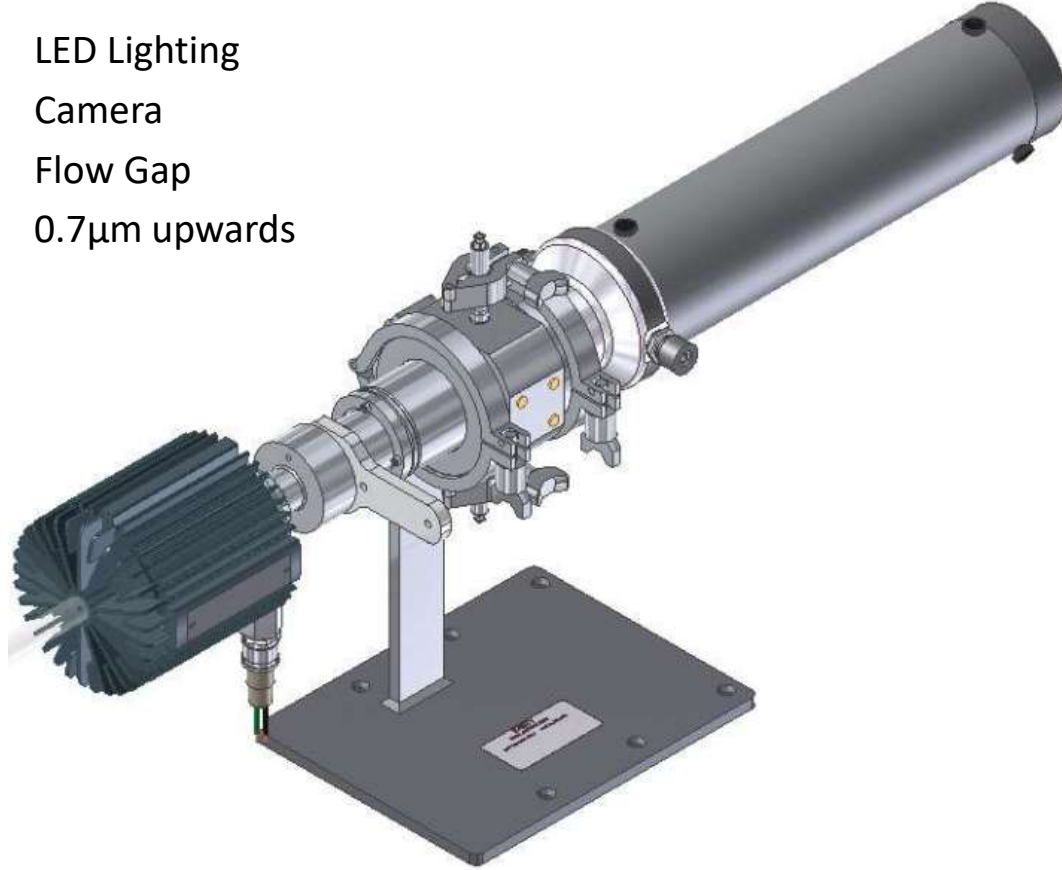
Systems available for Liquids Slurries and Dry Solids



II. Solutions for Measurement & Automation Applications

9. CANTY Vision Based Particle Size Analysis – Offline / Lab System

- LED Lighting
- Camera
- Flow Gap
- 0.7 μm upwards



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II. Solutions for Measurement & Automation Applications

9. CANTY Vision Based Particle Size Analysis for Liquid Slurry Particle Size and Shape - Inline System

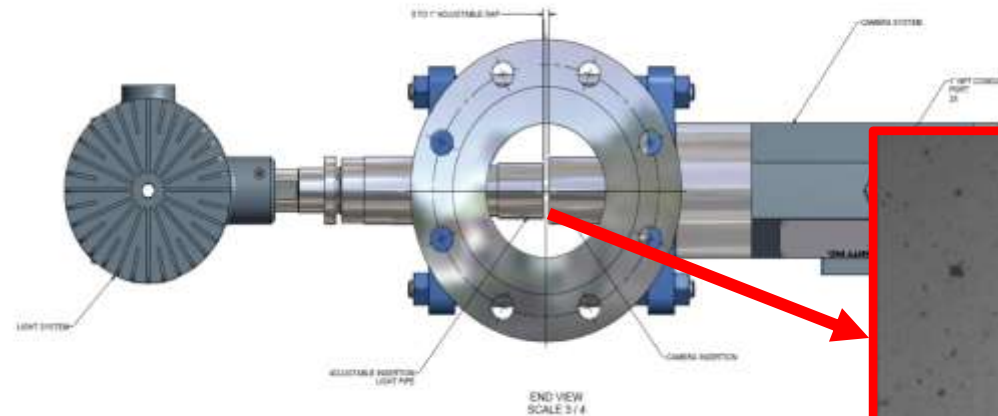


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Inflow Inline System - Mounts directly in pipeline as a spool piece and fluids flows through it

- LED Lighting
- Camera
- Flow Gap
- 0.7 μ m Upwards



II. Solutions for Measurement & Automation Applications

9. CANTY Solid Sizer LAB



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Video –
Solid sizer in LAB



II. Solutions for Measurement & Automation Applications



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9. CANTY Solid Sizer LAB

Video –Solid sizer in LAB



II. Solutions for Measurement & Automation Applications

9. CANTY Particle Sizing Systems



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Particle Volume Distribution 1

Particle Population Distribution 2

| | MEAN | MAX | MIN | MEDIAN | MODE | STDEV |
|---------------------------------------|--------|---------|-------|--------|------|--------|
| MINOR DIAMETER | 5.076 | 36.400 | 1.560 | 5.770 | NaN | 3.341 |
| MAJOR DIAMETER | 6.536 | 37.960 | 1.560 | 6.940 | NaN | 5.071 |
| ASPECT RATIO | 1.290 | 5.625 | 1.000 | 1.221 | NaN | 0.325 |
| BOUNDING RECT WIDTH | 5.863 | 36.400 | 1.560 | 4.420 | NaN | 4.319 |
| BOUNDING RECT HEIGHT | 5.952 | 37.960 | 1.560 | 4.420 | NaN | 4.882 |
| BOUNDING RECT DIAGONAL | 8.520 | 51.477 | 2.206 | 6.547 | NaN | 6.570 |
| PERIMETER | 19.849 | 115.347 | 5.195 | 14.581 | NaN | 15.959 |
| CONVEX HULL PERIMETER | 16.314 | 114.200 | 3.120 | 12.014 | NaN | 13.852 |
| HOLEY PERIMETER | NaN | 0.000 | 0.000 | NaN | NaN | NaN |
| MAX FERET DIAMETER | 7.396 | 36.247 | 2.206 | 5.719 | NaN | 5.291 |
| EQUIVALENT ELLIPSE MAJOR AXIS | 7.830 | 45.748 | 1.708 | 5.520 | NaN | 6.816 |
| EQUIVALENT ELLIPSE MINOR AXIS | 4.000 | 34.432 | 1.395 | 5.185 | NaN | 2.720 |
| EQUIVALENT ELLIPSE MAJOR AXIS (FERET) | 4.651 | 36.645 | 1.404 | 3.554 | NaN | 3.497 |
| EQUIVALENT RECT LONG SIDE | 5.982 | 42.749 | 1.299 | 3.754 | NaN | 6.098 |
| EQUIVALENT RECT SHORT SIDE | 5.943 | 28.857 | 1.299 | 3.884 | NaN | 2.317 |
| EQUIVALENT RECT DIAGONAL | 7.412 | 43.374 | 1.837 | 5.177 | NaN | 6.488 |
| EQUIVALENT RECT SHORT SIDE (FERET) | 5.955 | 28.783 | 1.103 | 2.791 | NaN | 2.747 |
| AVERAGE HORIZ. SEGMENT LENGTH | 2.946 | 15.015 | 0.811 | 1.982 | NaN | 1.533 |
| AVERAGE VERT. SEGMENT LENGTH | 3.185 | 15.015 | 0.811 | 1.488 | NaN | 1.575 |
| HYDRAULIC RADIUS | 1.211 | 0.112 | 0.446 | 0.859 | NaN | 0.830 |
| WADDELL DISK DIAMETER | 5.461 | 36.582 | 1.760 | 4.240 | NaN | 3.876 |
| AREA | 35.147 | 355.945 | 2.634 | 14.126 | NaN | 66.418 |
| HOLEY AREA | NaN | 0.000 | 0.000 | NaN | NaN | NaN |

Summary Statistics:

- Dv05: 5.200
- Dv10: 6.240
- Dv20: 8.840
- Dv30: 10.920
- Dv40: 13.000
- Dv50: 15.080
- Dv60: 16.130
- Dv70: 21.840
- Dv80: 24.440
- Dv90: 29.640
- Dv95: 36.400
- Dv100: 36.400

Summary Totals:

- Total Count: 364
- Total Area: 13326.3
- Total Volume: 39142.1
- PPM: 22.5818
- PPM: 4769.8

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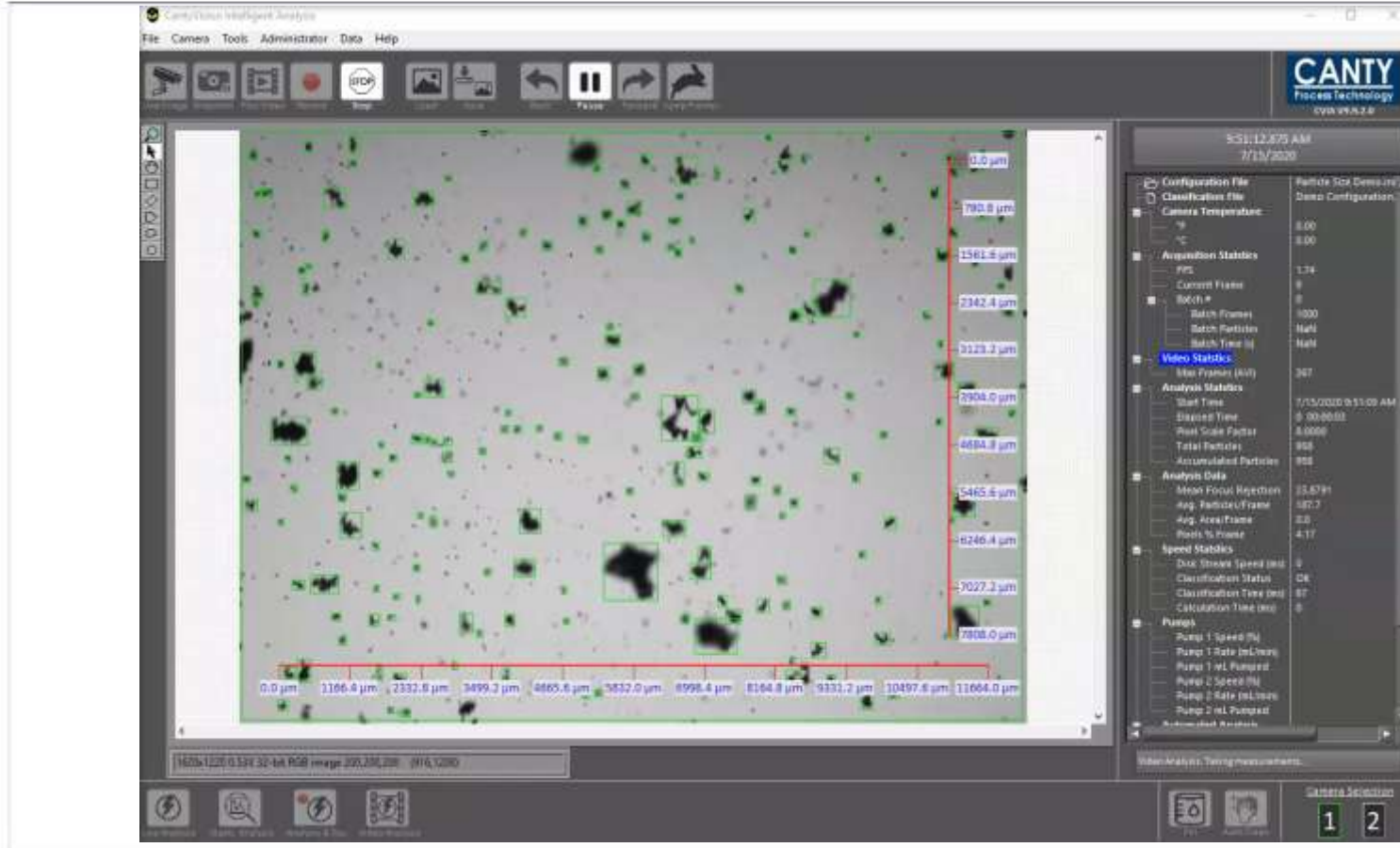
9. CANTY Particle Sizing Systems



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COMPANY

Video –
Particle Sizing Systems
on CANTY Vision software



II. Solutions for Measurement & Automation Applications

9. CANTY Particle Sizing Systems



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CarryVision Intelligent Analysis

File Camera Tools Administrator Data Help

Use Image Snapshot Play Index Record Stop Load Save Back Pause Forward Carry Forward

Summary Data

Particle Class: SOLIDS

Graph 1: Population Distribution

Graph 2: Volumetric Distribution

Particle Population Distribution 1

Particle Volumetric Distribution 2

| | MEAN | MAX | MIN | MEDIAN | | |
|---------------------------------------|---------|-----------|---------|---------|-------|----------|
| MAJOR DIAMETER | 167.906 | 2120.000 | 56.000 | 120.000 | Dv05 | 176.000 |
| ASPECT RATIO | 1.296 | 3.573 | 1.000 | 1.219 | Dv10 | 240.000 |
| BOUNDING RECT WIDTH | 145.966 | 2120.000 | 32.000 | 104.000 | Dv20 | 368.000 |
| BOUNDING RECT HEIGHT | 153.713 | 2024.000 | 32.000 | 112.000 | Dv30 | 528.000 |
| BOUNDING RECT DIAGONAL | 214.581 | 2907.975 | 73.756 | 152.840 | Dv40 | 688.000 |
| PERIMETER | 500.928 | 8137.189 | 163.038 | 348.188 | Dv50 | 816.000 |
| CONVEX HULL PERIMETER | 437.432 | 6290.222 | 93.295 | 303.528 | Dv60 | 1040.000 |
| HOLES' PERIMETER | NaN | 0.000 | 0.000 | NaN | Dv70 | 1312.000 |
| MAX FERET DIAMETER | 186.538 | 2334.988 | 64.498 | 134.104 | Dv80 | 1464.000 |
| EQUIVALENT ELLIPSE MAJOR AXIS | 201.349 | 3593.860 | 53.042 | 136.538 | Dv90 | 1636.000 |
| EQUIVALENT ELLIPSE MINOR AXIS | 97.199 | 1071.355 | 54.461 | 76.271 | Dv96 | 2024.000 |
| EQUIVALENT ELLIPSE MINOR AXIS (FERET) | 117.022 | 1537.602 | 36.628 | 86.647 | Dv100 | 2024.000 |
| EQUIVALENT RECT LONG SIDE | 151.028 | 3496.721 | 40.760 | 91.715 | Dn05 | 48.000 |
| EQUIVALENT RECT SHORT SIDE | 99.436 | 1201.344 | 29.418 | 77.648 | Dn10 | 56.000 |
| EQUIVALENT RECT DIAGONAL | 185.458 | 3548.176 | 57.643 | 124.528 | Dn20 | 56.000 |
| EQUIVALENT RECT SHORT SIDE (FERET) | 91.909 | 1207.630 | 28.768 | 68.052 | Dn30 | 72.000 |
| AVERAGE HORIZ. SEGMENT LENGTH | 770.668 | 10430.182 | 221.091 | 593.920 | Dn40 | 80.000 |
| AVERAGE VERT. SEGMENT LENGTH | 825.137 | 8967.477 | 230.400 | 649.343 | Dn50 | 96.000 |
| HYDRAULIC RADIUS | 30.166 | 342.838 | 11.376 | 23.224 | Dn60 | 112.000 |
| | | | | | Dn70 | 136.000 |

Total Count: 3503 Total Area: 3.19600E+7 Total Volume: 4.62305E+11 PPM: 5.00603E+6 PPMI: 174.305

1620x1220 0.42X 32-bit RGB image 191,191 (1738,1203)

Use Machine Zoom Analyze & Fit Video Analysis

III. Contribute to the Success of our Customers

Typical Customers from wide variety of Industries. HBC has more than one way to approach Customers. **HUYNH BANG**



| | | |
|--|--|--|
| <ul style="list-style-type: none"> Agriculture <ul style="list-style-type: none"> DAWU mimosaTEK Rynan Tây Ninh Tapioca Vietnam Tapioca Boiler Industry <ul style="list-style-type: none"> Hong Nhut IMECO Boiler Martech Boiler Vietnam Boiler Breweries <ul style="list-style-type: none"> Carlsberg HABECO Heineken SABECO Vietnam Brewery Car Manufacturing <ul style="list-style-type: none"> Ford Mercedes-Benz Thaco Toyota VinFast Ceramic Industry <ul style="list-style-type: none"> Caesar Sanitary Wares Frit hue Minh Long I TOTO Vietnam Cement Industry <ul style="list-style-type: none"> Insee (Siam City Cement) Duyen Ha Cement Ha Tien 1 Nghi Son Cement Saint Gobain Song Thao Cement Chemical Industry <ul style="list-style-type: none"> Ba Con Co Ca Mau Fertilizer Dow Henkel LG Vina Chemical Phu My Fertilizer Procter & Gamble Southern Basic Chemical | <ul style="list-style-type: none"> Electronics & Semiconductor <ul style="list-style-type: none"> First Solar Hydra Samsung SEI Electronic Components Food & Beverage <ul style="list-style-type: none"> Ajinomoto Andros Dalatmilk Café Outspan Coca Cola C.P. Cooperation Friesland Campina iLD Coffee Nestle Orion Pepsi Perfetti van Melle Phuong Vy Tata Coffee TH Milk THP Group Trung Nguyen Coffee URC Vedan Vinamilk Vissan Industrial Wood <ul style="list-style-type: none"> May Forestry MDF Quang Tri Scancom Vina Eco Board VRG Dongwah MDF Oil & Gas <ul style="list-style-type: none"> Linde Gas Long Son Petrochemicals Nghi Son Refinery and Petrochemical Petro Vietnam Premier Oil Total Rosneft Puma Energy Saigon Petro VietsovPetro | <ul style="list-style-type: none"> Paper, Packaging & Printing <ul style="list-style-type: none"> An Hoa Paper Cheng Loong Crown Packaging SCG Paper / Vina Kraft Paper Vidon Wattens Delfort Group Pharmaceutical <ul style="list-style-type: none"> B. Braun PYMEPHARCO Tien Tuan Pharmaceutical Machinery Suheung Nanogen Nipro Pharma Power Plants <ul style="list-style-type: none"> Phu My 3 Power Plant Nhiệt điện Phả Lại Nhiệt điện Quảng Ninh Steel Industry <ul style="list-style-type: none"> Formosa Ha Tinh Hoa Phat Steel Posco Ton Dong A TVP Steel Shipbuilding & Marine <ul style="list-style-type: none"> Austal HADUCO Kristian Gehrhard Jepsen PV Shipyard Triyards Textile & Garment <ul style="list-style-type: none"> Concord Textile Formosa Taffeta Hyosung Nien Hsing Textile Polytex Far Eastern |
|--|--|--|

IV. Conclusion

Huynh Bang is a reliable and competent Partner.



Huynh Bang is your partner for a Market Entry and Representation in Vietnam: COMPANY

- Product knowledge in the areas of Industrial Heat, Measurement and Automation
- Market knowledge for industrial Equipment for more than 23 years

Huynh Bang is a reliable and competent Partner:

- Engineering and Management knowledge from Germany
- Commitment to MRO

Huynh Bang can offer the whole Package:

- Technical consultation on design, sizing, selection and installation
- On-site delivery, logistics and custom clearance procedures
- Customer specific installation and commissioning
- On-site troubleshooting and service
- Spare parts consulting

Thank you for your attention.

Any questions? Please feel free to contact us.



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INDUSTRIAL HEAT

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ecom

hp
TECHNIK

BOSCH

MEASUREMENT & AUTOMATION

VEGA

JUMO

optris
ADVANCED MEASUREMENTS

KEM

meister

vögtlin
instruments

SCHMIDT
Technology

CANTY
PROCESS TECHNOLOGY