

# Huynh Bang Company Corporate Presentation

Ho Chi Minh City, Vietnam  
July 2025

## 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.



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COMPANY



### 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



**HUYNH BANG**

COMPANY

Founded in:

2003

Sphere of activity:

Supplier and Service Agent of Industrial Equipment **Made in Europe.**

Legal and administrative  
headquarters:

**Huynh Bang  
Engineering GmbH**

Walleitnerstraße 2  
82031 Grünwald  
München  
Germany



**Huynh Bang  
Company, Ltd.**

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

Employees:

2

Office space:

25 m<sup>2</sup>

18

174 m<sup>2</sup>



# 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		Automatic Minature Fire Extinguisher
		Gas and Air Flow		
		Process Refractometers for Concentration		
		Vessel Lights Sight Glasses Vessel Closures		Process & High Temperature Cameras, Patricle Size Systems Software & Hardware

# I. Company Profile

4. Management understanding both Western and Vietnamese culture.



COMPANY



**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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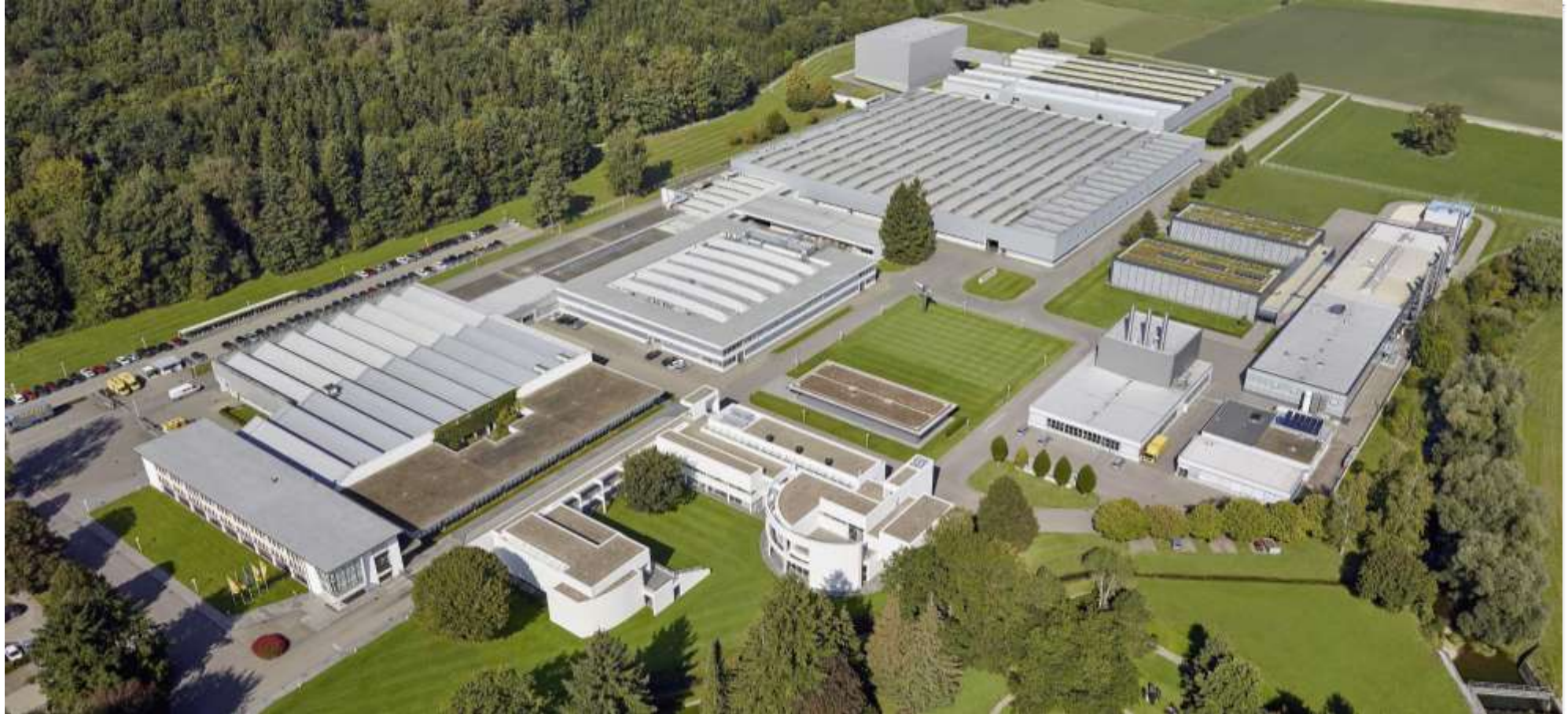


## II. Solutions for Industrial Heat Applications

### 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

##### 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

##### Special version ZMI – PLN – ULN

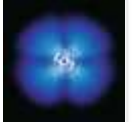
- Extended turndown range **ZMI** – Gas burner
- Extremely low NOx values **PLN – ULN**  
**4.5 kW – 11.000 kW**
- Excellent serviceability
- Long life



#### 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

##### Industrial burners WK & WKmono

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





## II. Solutions for Industrial Heat Applications

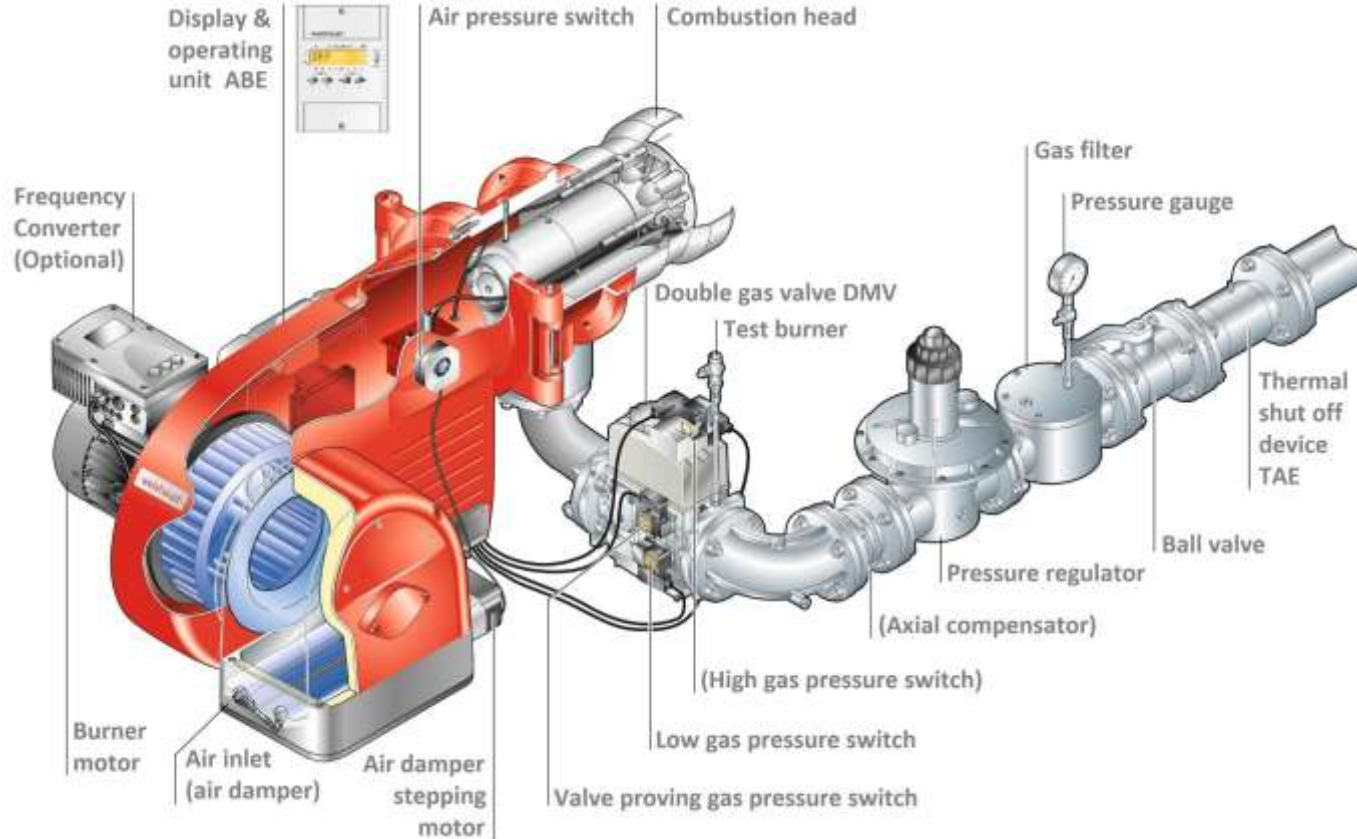
### 1. Weishaupt Gas Burner Monarch® WM-G10/20/30/50



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#### WM-G30 with flanged gas valve train DMV



[WM – gas burner](#)  
[CAD portal](#)



## II. Solutions for Industrial Heat Applications

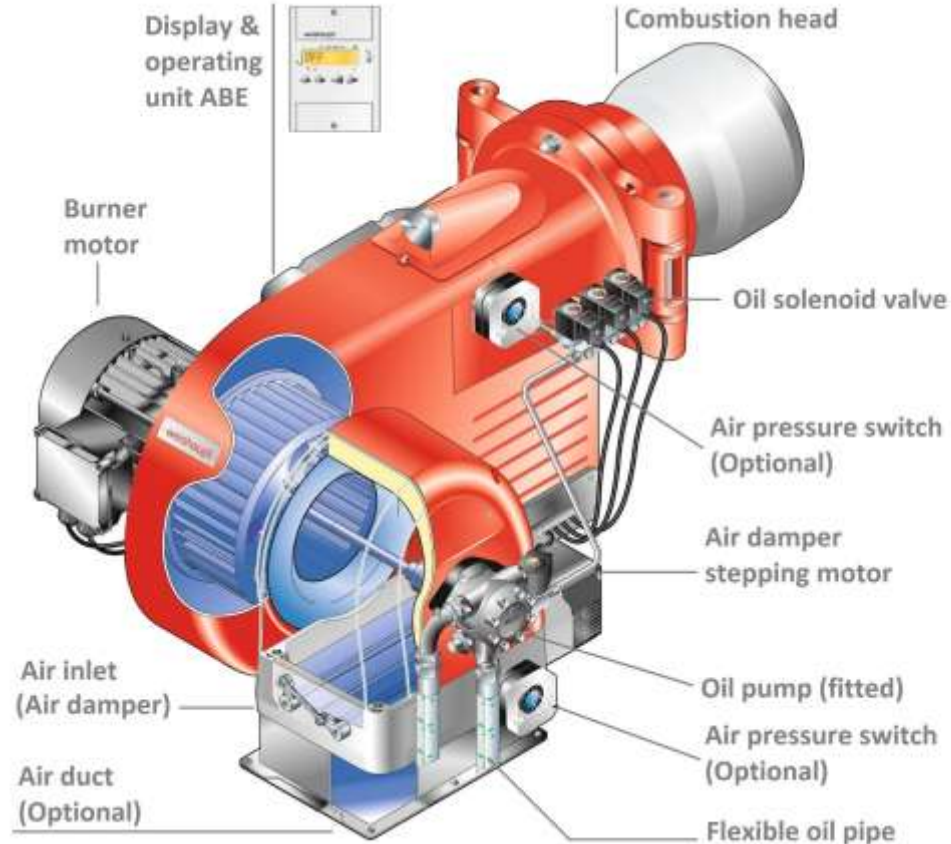
### 1. Weishaupt Oil Burner Monarch® WM-L10/20/30/50



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#### WM-L30 – Oil operation with components visible externally



[WM – oil burner](#)  
[CAD portal](#)

## II. Solutions for Industrial Heat Applications

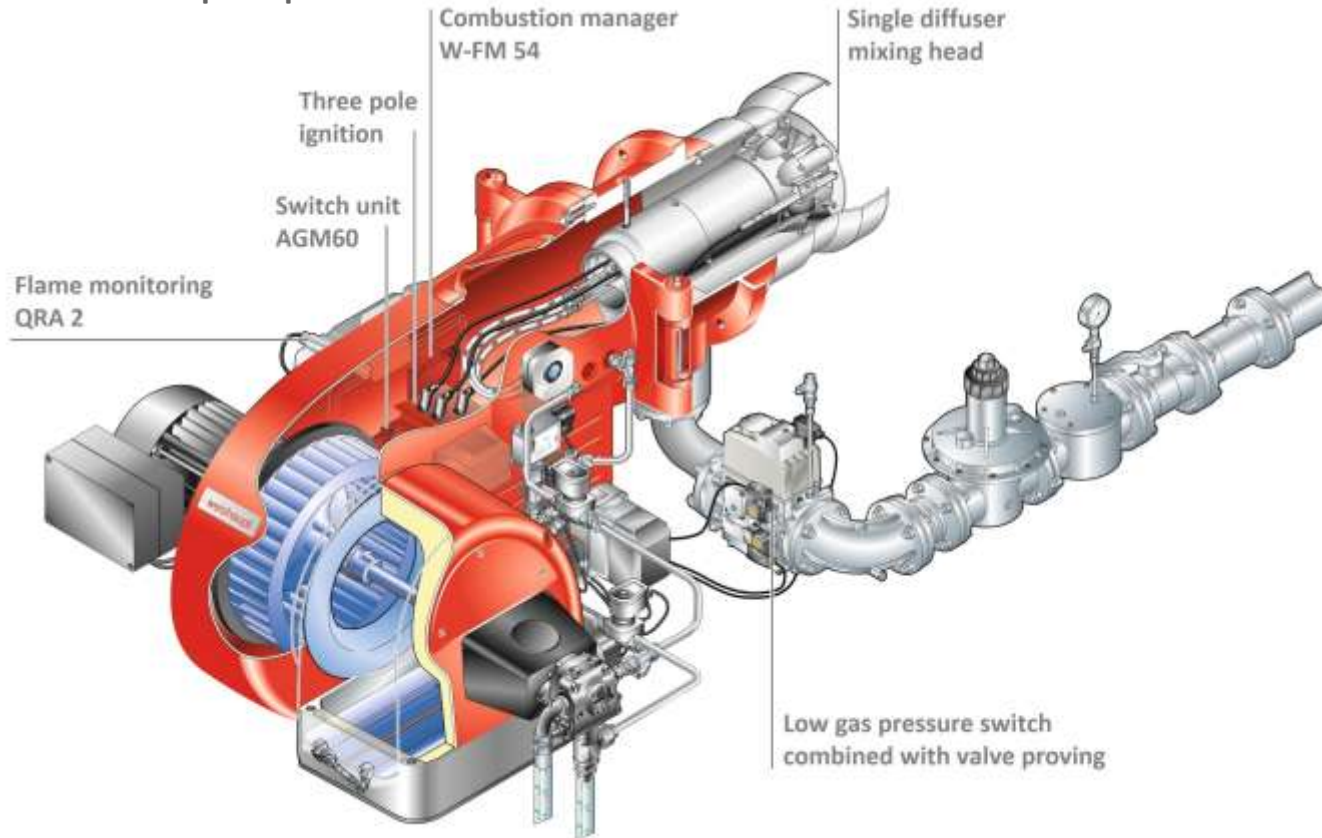
### 1. Weishaupt Dual Fuel Burner Monarch® WM-GL10/20/30/50



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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

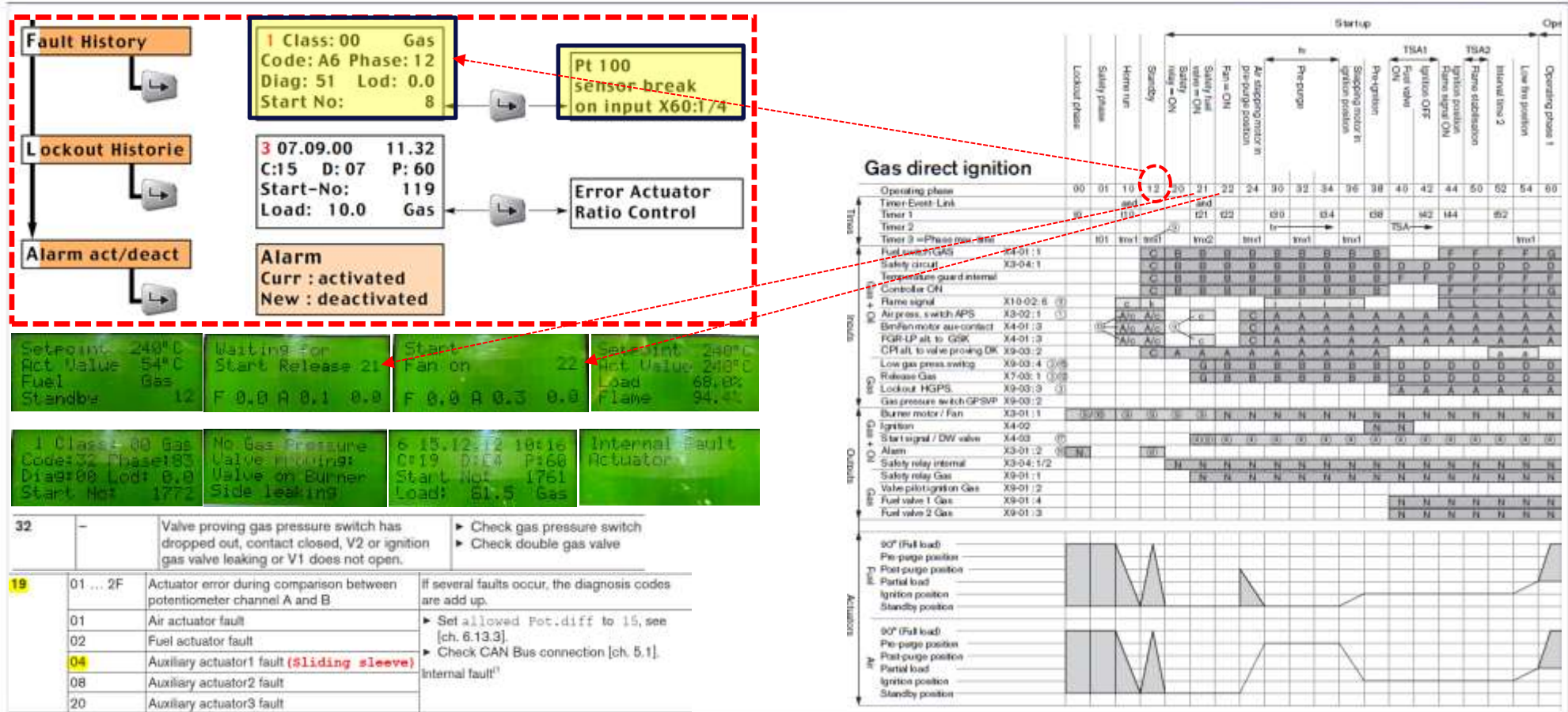


## II. Solutions for Industrial Heat Applications

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



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## II. Solutions for Industrial Heat Applications

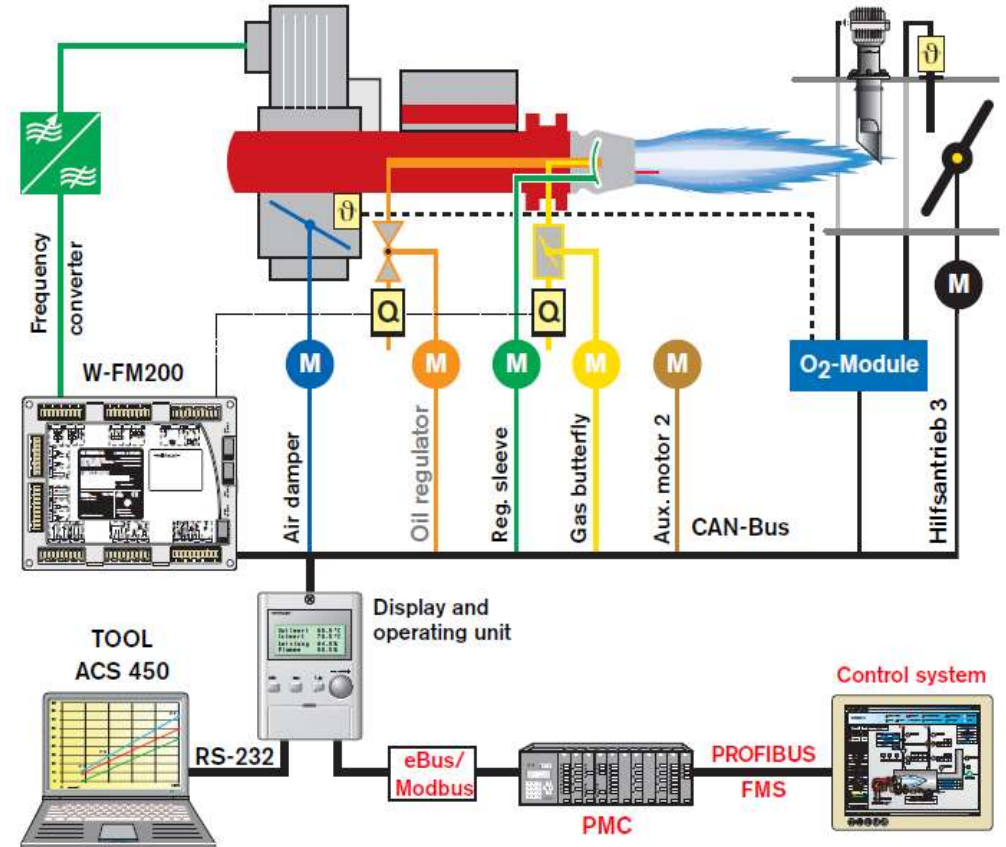
### 1. Weishaupt with Digital Combustion Management W-FM



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#### From basic to high-end Applications:

- Basic oil, gas & dual-fuel burner
- VSD (variable speed drive)
- O<sub>2</sub>-trim
- Remote control & data transfer via bus connection
- Flue gas recirculation
- Parallel operation, Simultaneous operation

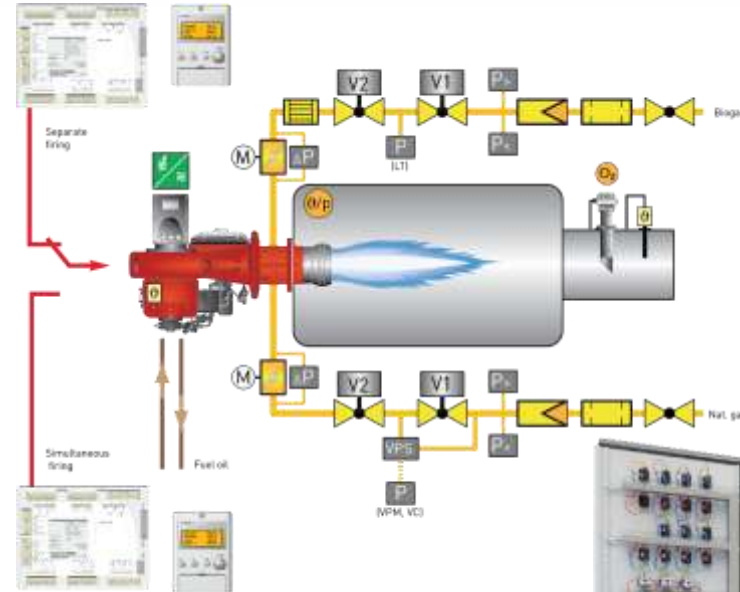


## II. Solutions for Industrial Heat Applications

### 1. Special Application: Simultaneous Combustion

#### 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:

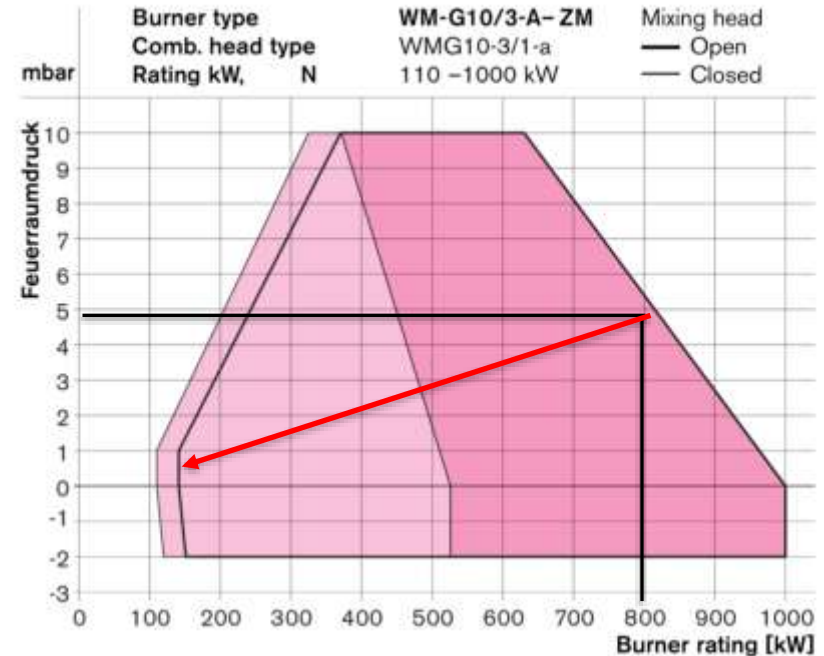
-  Burner turndown is important for fuel savings especially during mid- and low-load conditions.
-  Weishaupt gas burners have a turndown ratio of up to **1:10**. In practice, still many burners operate at 1:3 turndown.
-  Frequent boiler cycling also introduces thermal shock to the boiler tubes and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

Name plate

-weishaupt-	
Max Weishaupt GmbH, D-8870 Schwand, Germany www.weishaupt.de	
CE 0085	
CE 0085 DC 0027	
Burner type WM-G10/3-A - modavan	
Version ZM	Destination country DE
Serial No. 9275019	Cal. 5/15/98
Year of manufacture 2009	Type of gas N
Rating 110 kW	110 kW
Corrective press. 15 mbar	500 mbar
Fuel oil 15 mbar	500 mbar
WGs-CI 5	Protection SP 64
Control voltage 230 V, 1~	50 Hz
Max. voltage 400 V, 3~	N PE 50 Hz
Elect. rating 1.0 kW	1.0 kW
Made in Germany	



Capacity graph WM-G10/3 version ZM



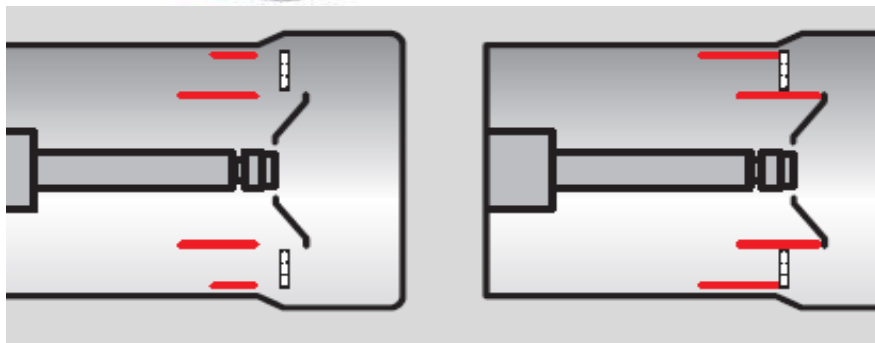
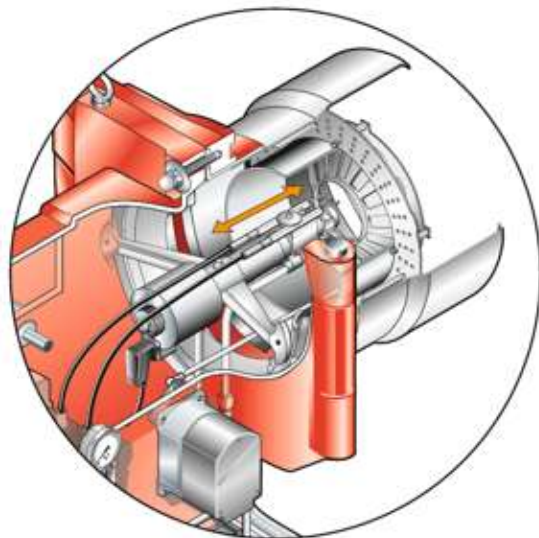
WM-G10/3 version ZM with turndown ratio of **1:8**  
Possible min capacity of almost **100 kW** at max capacity of **800 kW**

## 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

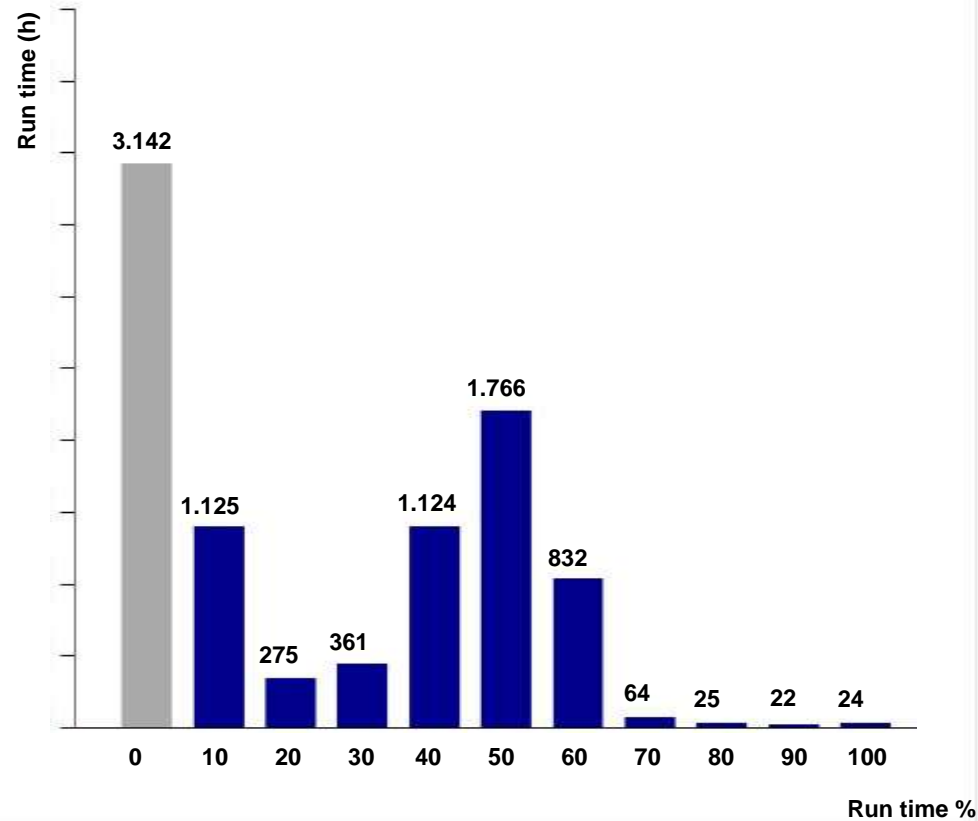
### 1. Weishaupt Efficiency Calculator



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#### 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

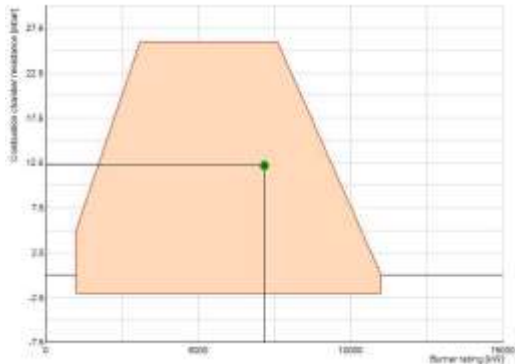


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## 1. Weishaupt Efficiency Calculator

### 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/m³	Fuel	Nat. Gas E	10.24 kWh/m³
O <sub>2</sub> (Partial load)	4.0	Vol%	O <sub>2</sub> (Partial load)	6.0	Vol%
O <sub>2</sub> (Interm. load)	3.0	Vol%	O <sub>2</sub> (Interm. load)	5.5	Vol%
O <sub>2</sub> (Full load)	2.0	Vol%	O <sub>2</sub> (Full load)	4.5	Vol%
Motor rating	19	kW	Motor rating	18	kW

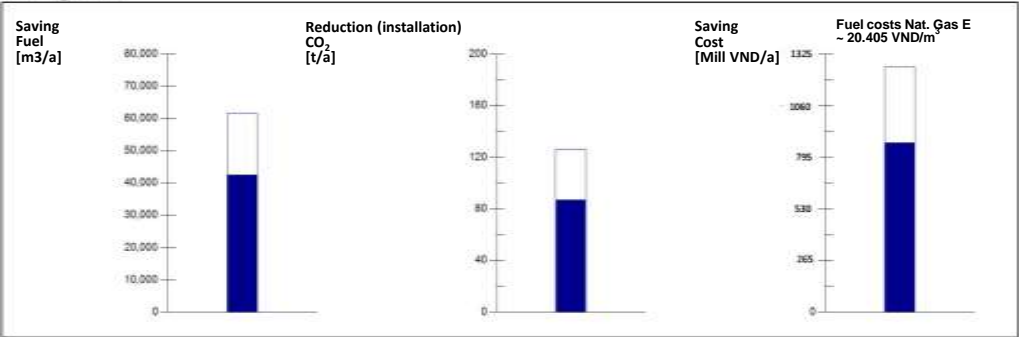


### Saving

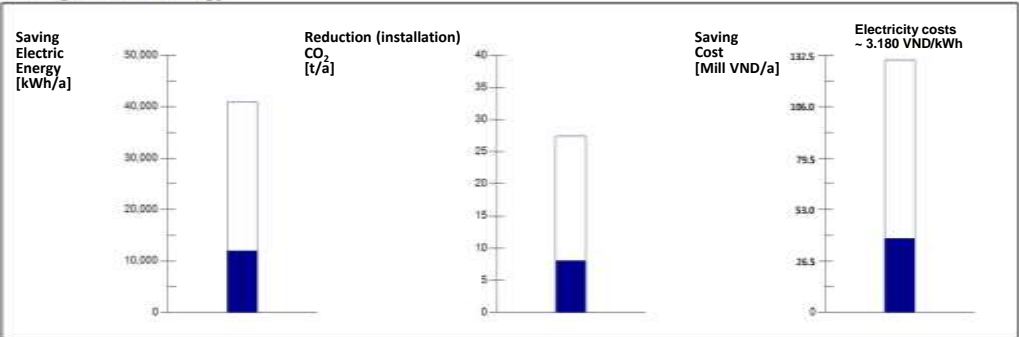
Burner equipment  
Speed control  
O<sub>2</sub> trim

Modulating  
no  
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

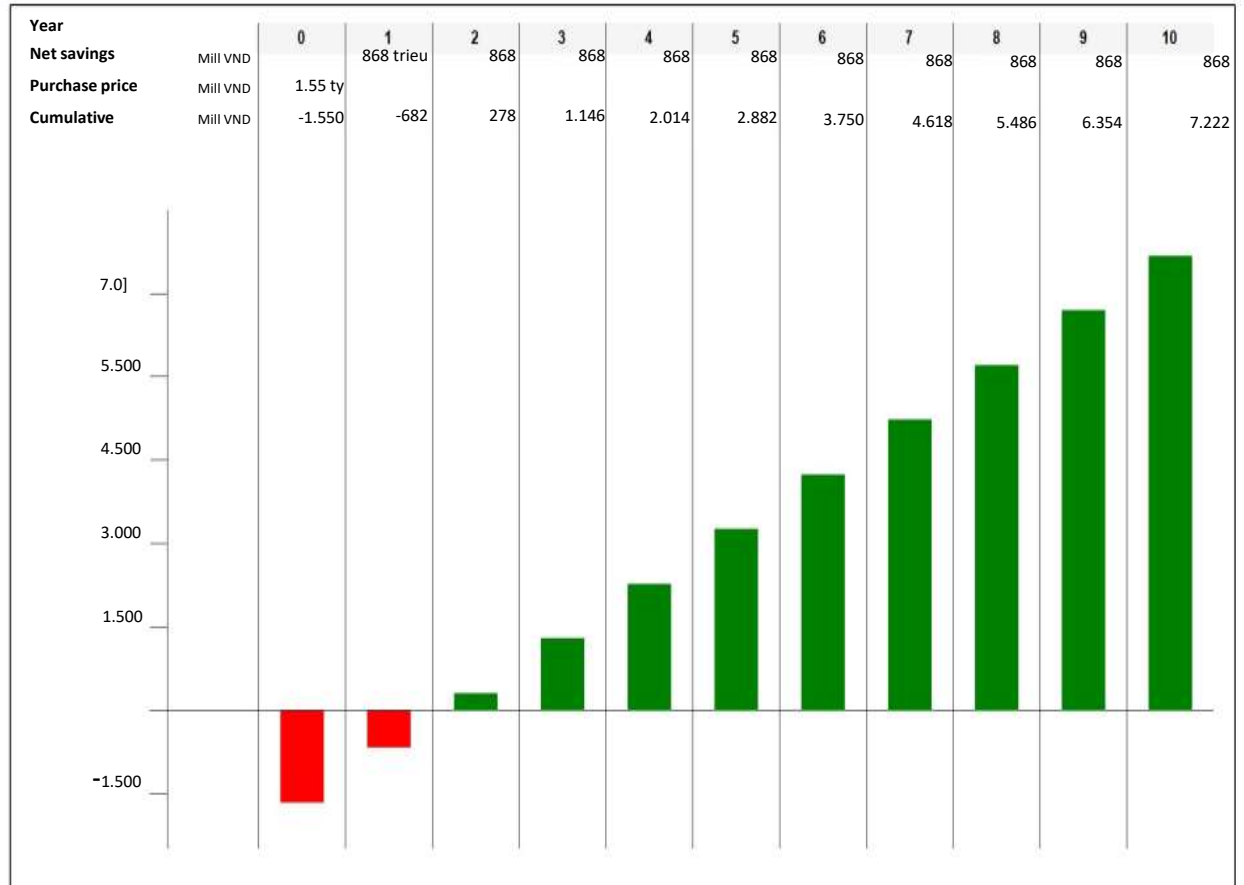
Calculation period 10 Years

#### 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

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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–weishaupt–



## II. Solutions for Industrial Heat Applications

### 1. Typical Weishaupt burner installation support & supervision



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–weishaupt–

## II. Solutions for Industrial Heat Applications

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



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–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

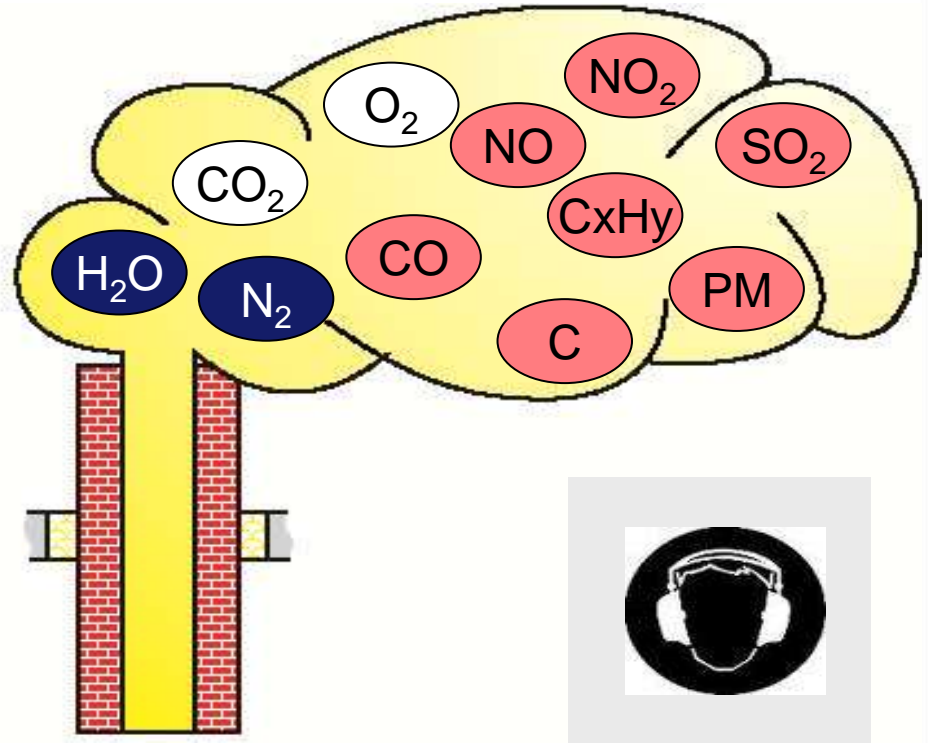
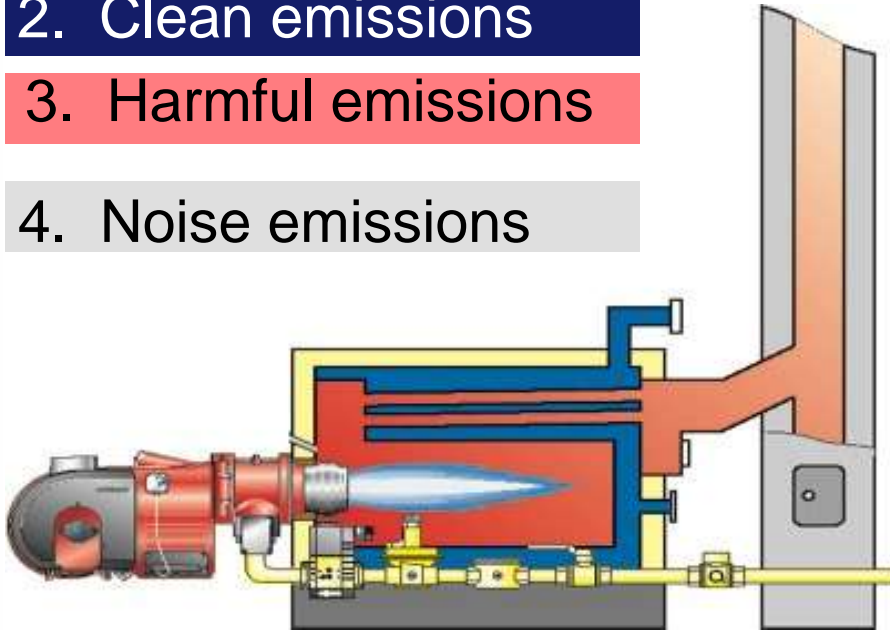
### 1. Overview Emissions

#### 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

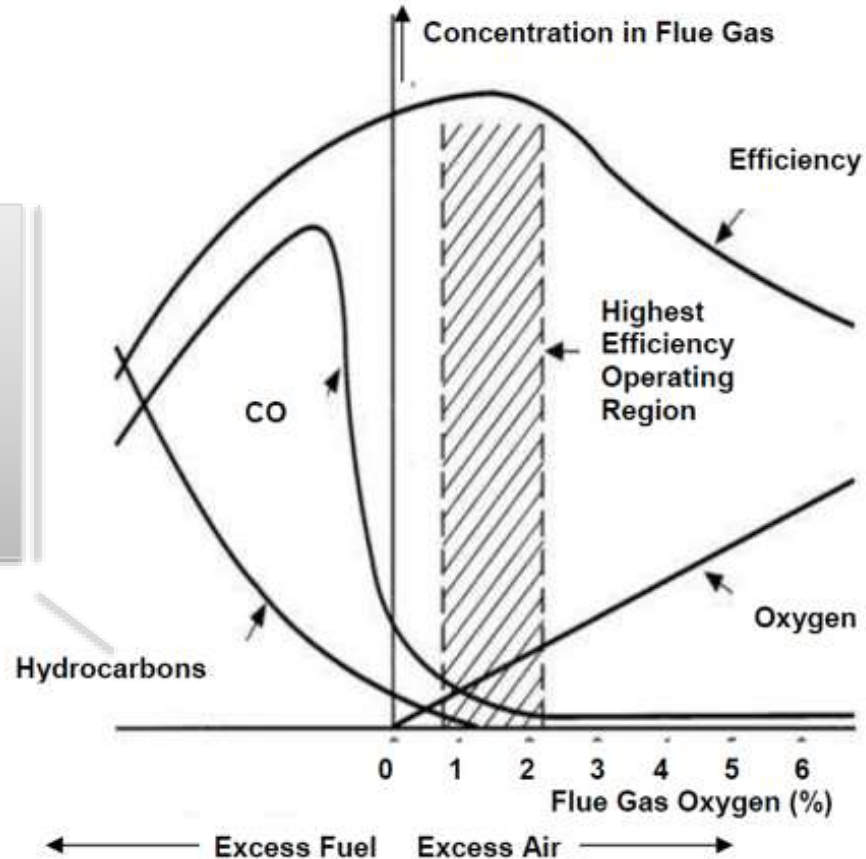


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Unburned fuel (carbon monoxide, hydrocarbon, etc.) and higher than required excess air levels result

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



Higher excess air means lower combustion efficiency.

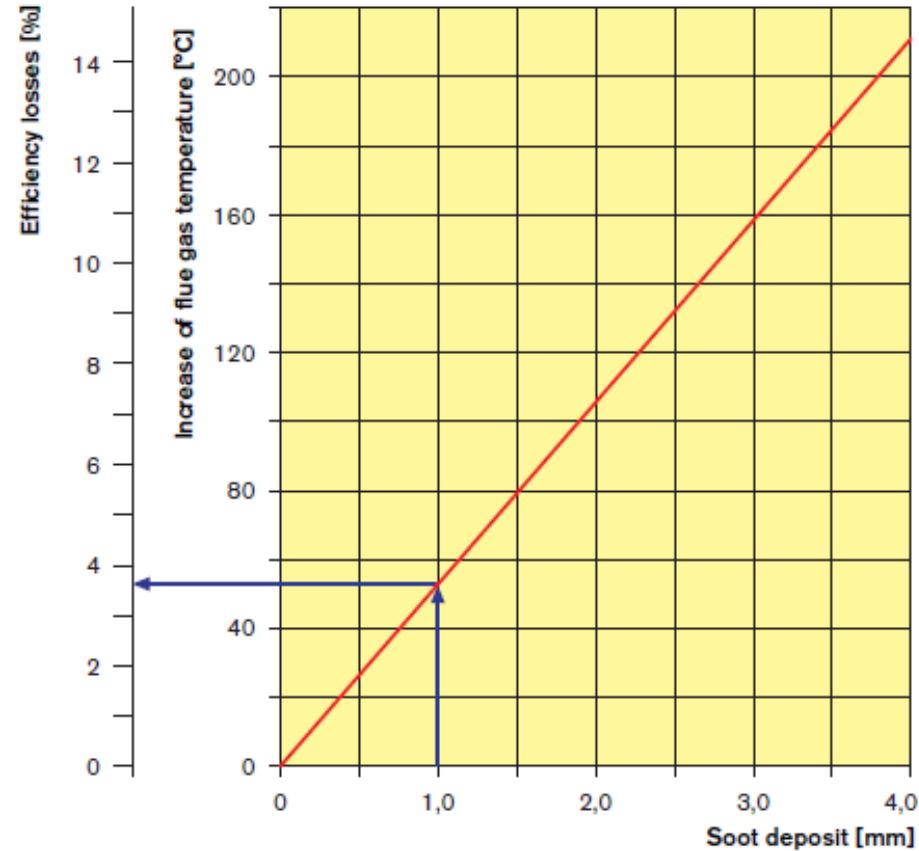
## II. Solutions for Industrial Heat Applications

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



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## II. Solutions for Industrial Heat Applications

### 2. ecom<sup>®</sup> 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:

- $O_2$  (0-21%)
- CO (0-4.000 ppm)
- Gas temperature (0 – 500 °C)
- Ambient temperature (0 – 99 °C)
- Pressure( $\pm$  100 mbar)
- Differential pressure( $\pm$  100 mbar)
- Internal air pressure sensor (300 – 1.100 mbar)
- Internal flow measurement



#### Options (electrochemical sensors):

- NO (0 - 5.000 ppm)
- $NO_2$  (0 - 1.000 ppm)
- $SO_2$  (0 - 5.000 ppm)
- CO extended (0 - 10.000 ppm)
- CO% (0 - 63.000 ppm)
- $C_xH_y$  (0 – 4 vol% catalytic)
- $H_2$  (0-2.000 ppm)
- $H_2S$  (0-1.000 ppm)
- $NH_3$  (0-1.000 ppm)
- HCl (0-100 ppm)



#### Options (infrared bench):

- CO% (0 - 63.000 ppm)
- $CO_2$  (0 - 20%)
- $C_3H_8$  (0 - 2.000 ppm)
- $CH_4$  (0 - 30.000 ppm)
- Differential temperature
- Soot measurement



#### Calculated values:

- $CO_2$
- $CO_{(undiluted)}$
- Losses
- Efficiency (0 – 120%)
- $NO_x$
- mg/m<sup>3</sup>
- mg/kWh
- Excess air
- Dew point
- Adjustable  $O_2$  ref.



#### 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**  
safe identification of  
leakages at gas pipes



**BW Clip O<sub>2</sub> / CO / H<sub>2</sub>S**  
Maintenance-free  
Single gas detector  
Android / iOS compatible

# II. Solutions for Industrial Heat Applications

## 2. ecom: Unique Selling Points ecom® Products



HUYNH BANG

 <b>EXTREMELY</b> precise		 <b>EXTREMELY</b> efficient		 <b>EXTREMELY</b> complete	
 <b>EXTREMELY</b> broad reach	 	 10 JAHRE GARANTIE YEARS GUARANTEE		 <b>EXTREMELY</b> safe	
 <b>EXTREMELY</b> cool				 <b>EXTREMELY</b> robust	



## II. Solutions for Industrial Heat Applications

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



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<p>***** * ECOM - EN2 * *****</p> <p>Date: 28.05.16 Time: 11:37:11</p> <p>Gas analysis</p> <p>Fuel type: Natural Gas</p> <p>1</p> <p>T.Air: 38 °C T.Gas: 72 °C O2: 1.9 % CO: 0 PPM NO: 57 PPM NOx: 60 PPM SO2: 0 PPM CO2: 9.5 % Eff: 88.3 % Losses: 11.7 % Exo. air: 1.23 Dew Poi: 55 °C</p> <p>Huynh Bang Company Ltd. Room 505 Fideco Building 14 Thao Dien District 2 HCM City Viet Nam Tel: +84837449002 Fax: +84837449004 Email: info@huyhbang.com Web: www.huyhbang.com</p>	<p>***** * ECOM - EN2 * *****</p> <p>Date: 28.05.16 Time: 11:42:09</p> <p>Gas analysis</p> <p>Fuel type: Natural Gas</p> <p>2</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: 9.5 % Eff: 88.0 % Losses: 12.0 % Exo. air: 1.22 Dew Poi: 55 °C</p> <p>Huynh Bang Company Ltd. Room 505 Fideco Building 14 Thao Dien District 2 HCM City Viet Nam Tel: +84837449002 Fax: +84837449004 Email: info@huyhbang.com Web: www.huyhbang.com</p>	<p>***** * ECOM - EN2 * *****</p> <p>Date: 28.05.16 Time: 11:42:04</p> <p>Gas analysis</p> <p>Fuel type: Natural Gas</p> <p>3</p> <p>T.Air: 40 °C T.Gas: 96 °C O2: 3.6 % CO: 0 PPM NO: 46 PPM NOx: 48 PPM SO2: 0 PPM CO2: 9.7 % Eff: 87.6 % Losses: 12.4 % Exo. air: 1.21 Dew Poi: 55 °C</p> <p>Huynh Bang Company Ltd. Room 505 Fideco Building 14 Thao Dien District 2 HCM City Viet Nam Tel: +84837449002 Fax: +84837449004 Email: info@huyhbang.com Web: www.huyhbang.com</p>	<p>***** * ECOM - EN2 * *****</p> <p>Date: 28.05.16 Time: 11:43:00</p> <p>Gas analysis</p> <p>Fuel type: Natural Gas</p> <p>4</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 % Exo. air: 1.19 Dew Poi: 55 °C</p> <p>Huynh Bang Company Ltd. Room 505 Fideco Building 14 Thao Dien District 2 HCM City Viet Nam Tel: +84837449002 Fax: +84837449004 Email: info@huyhbang.com Web: www.huyhbang.com</p>
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Flue gas analyzer display in operation

<p>***** * ECOM - EN2 * *****</p> <p>Date: 28.05.16 Time: 11:44:28</p> <p>Gas analysis</p> <p>Fuel type: Natural Gas</p> <p>5</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 % Exo. air: 1.17 Dew Poi: 55 °C</p> <p>Huynh Bang Company Ltd. Room 505 Fideco Building 14 Thao Dien District 2 HCM City Viet Nam Tel: +84837449002 Fax: +84837449004 Email: info@huyhbang.com Web: www.huyhbang.com</p>	<p>***** * ECOM - EN2 * *****</p> <p>Date: 28.05.16 Time: 11:45:05</p> <p>Gas analysis</p> <p>Fuel type: Natural Gas</p> <p>6</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: 13.3 % Exo. air: 1.12 Dew Poi: 55 °C</p> <p>Huynh Bang Company Ltd. Room 505 Fideco Building 14 Thao Dien District 2 HCM City Viet Nam Tel: +84837449002 Fax: +84837449004 Email: info@huyhbang.com Web: www.huyhbang.com</p>	<p>***** * ECOM - EN2 * *****</p> <p>Date: 28.05.16 Time: 11:45:47</p> <p>Gas analysis</p> <p>Fuel type: Natural Gas</p> <p>7</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 % Exo. air: 1.15 Dew Poi: 55 °C</p> <p>Huynh Bang Company Ltd. Room 505 Fideco Building 14 Thao Dien District 2 HCM City Viet Nam Tel: +84837449002 Fax: +84837449004 Email: info@huyhbang.com Web: www.huyhbang.com</p>	<p>***** * ECOM - EN2 * *****</p> <p>Date: 28.05.16 Time: 11:46:50</p> <p>Gas analysis</p> <p>Fuel type: Natural Gas</p> <p>8</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: 85.3 % Losses: 14.7 % Exo. air: 1.11 Dew Poi: 56 °C</p> <p>Huynh Bang Company Ltd. Room 505 Fideco Building 14 Thao Dien District 2 HCM City Viet Nam Tel: +84837449002 Fax: +84837449004 Email: info@huyhbang.com Web: www.huyhbang.com</p>	<p>***** * ECOM - EN2 * *****</p> <p>Date: 28.05.16 Time: 11:51:11</p> <p>Gas analysis</p> <p>Fuel type: Natural Gas</p> <p>9</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: 85.0 % Losses: 14.9 % Exo. air: 1.11 Dew Poi: 56 °C</p> <p>Huynh Bang Company Ltd. Room 505 Fideco Building 14 Thao Dien District 2 HCM City Viet Nam Tel: +84837449002 Fax: +84837449004 Email: info@huyhbang.com Web: www.huyhbang.com</p>
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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

ecom-EN2



ecom-EN2



ecom-UNO  
Pressure measurement



ecom-LSG



Pressure test on gas valve train



## 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**





## 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

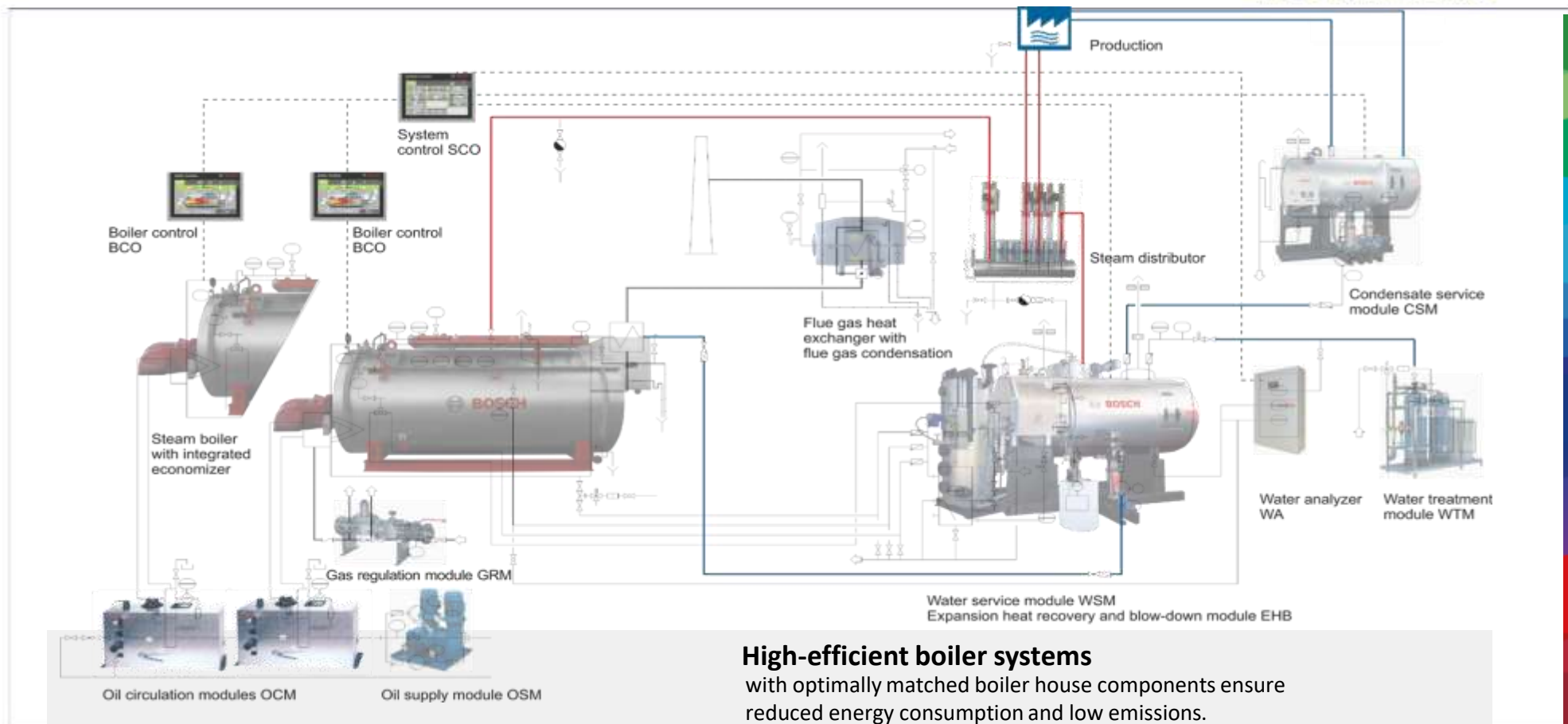
		Industrial boilers	Efficiency	Components	Controls																				
Heating / Hot water		<div></div> <div><div>UT-L</div><div>UT-M</div><div>UT-H</div><div>UT-HZ</div></div> <table><tr><td>Output</td><td>&lt;1-25 MW</td><td>&lt;1-19 MW</td><td>&lt;1-18 MW</td><td>13-38 MW</td></tr><tr><td>T<sub>max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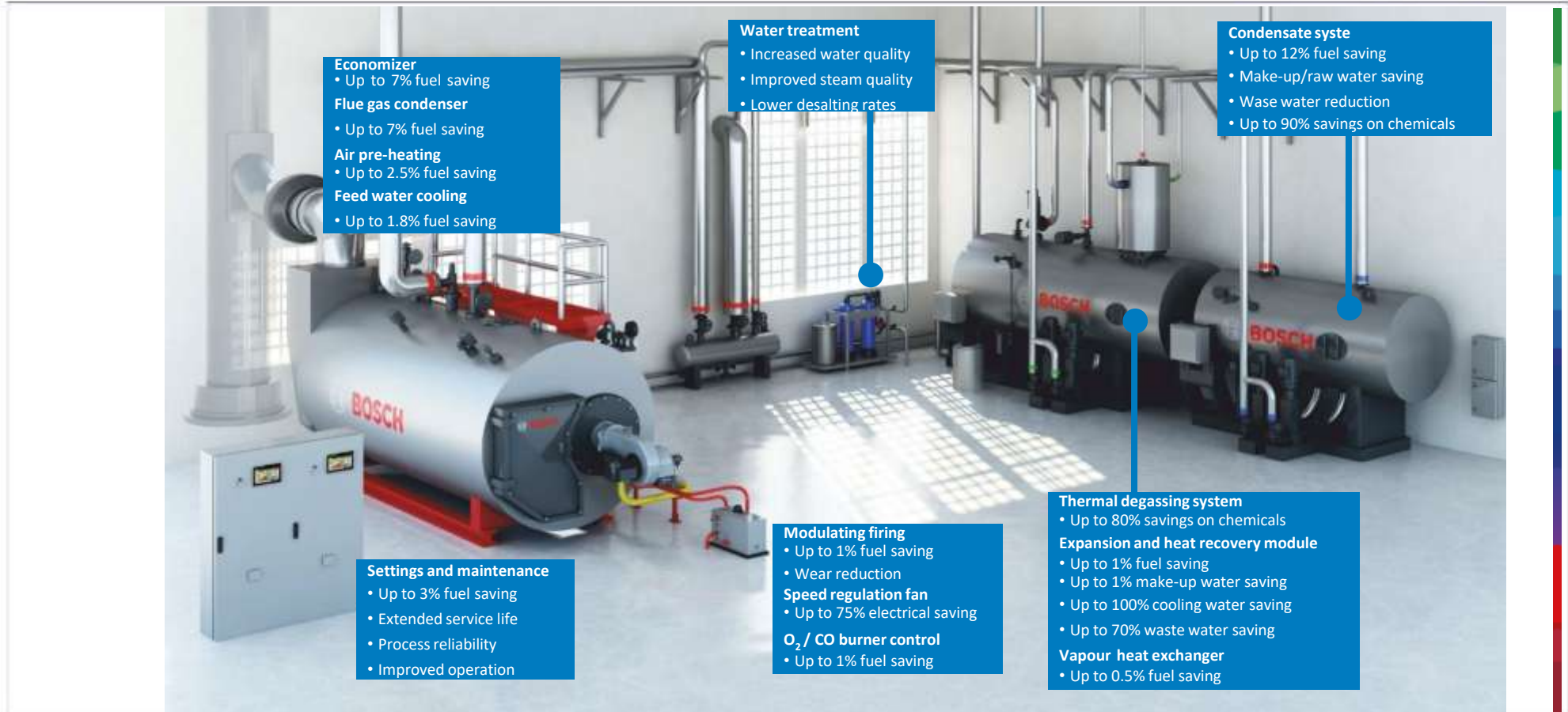


## II. Solutions for Industrial Heat Applications

### 3. Bosch boiler house components, efficiency components and controls



HUYNH BANG



## II. Solutions for Industrial Heat Applications

### 3. Bosch universal steam boiler type UL-S



### 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

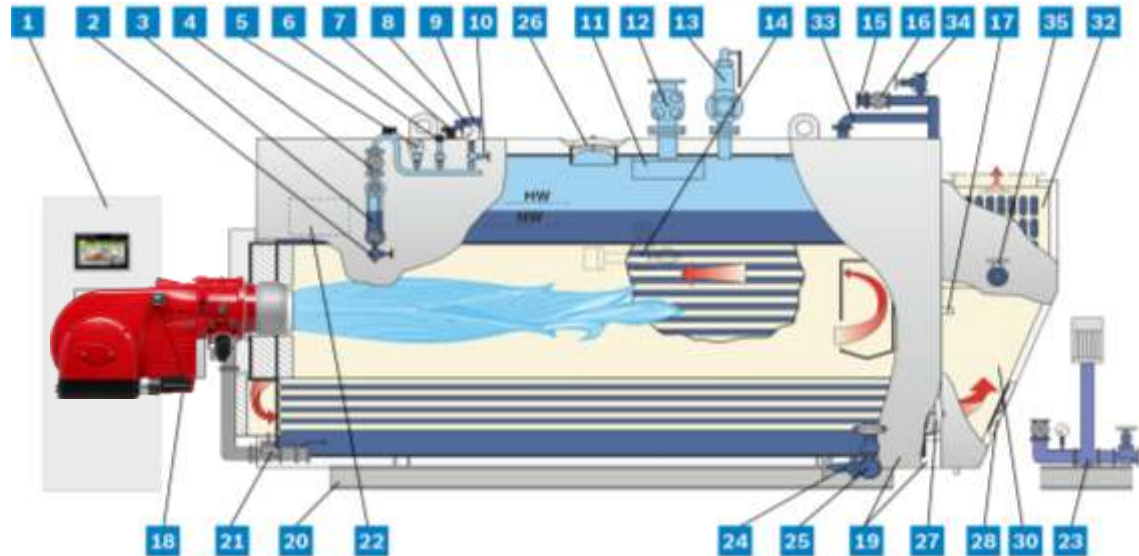
### 3. Bosch Steam Boiler equipment for UL-S



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#### 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

Around 25,000 developed films per year

**Quality control**

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



# II. Solutions for Measurement & Automation Applications

## 1. VEGA Headquarters in Schiltach, Germany



HUYNH BANG



THIS IS HOW IT  
LOOKS AT **VEGA**



Headquarters in *Schiltach*,  
Germany

1,150  Employees  
in Schiltach

 60  
Trainees

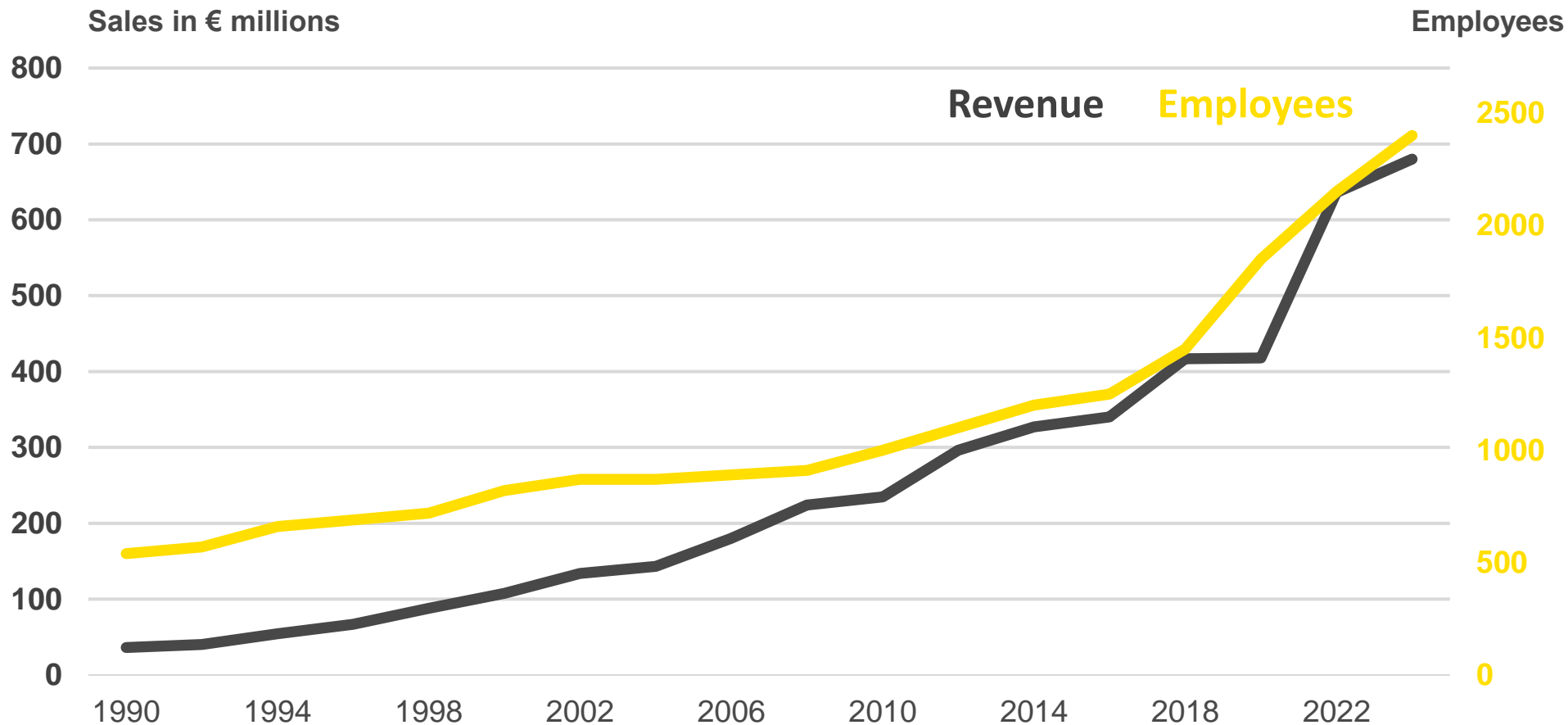
WORLDWIDE  
2,400 EMPLOYEES 

**supfina**

***grieshaber***  
PRECISION

**VEGA**

# Focussed on long-term development

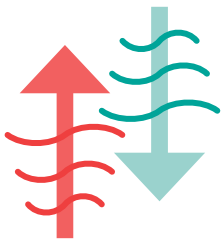




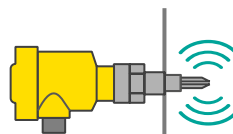
# Product portfolio



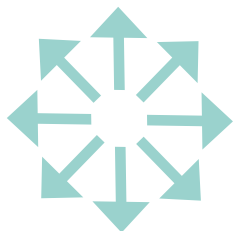
# We produce measurement



Level measurement



Level detection

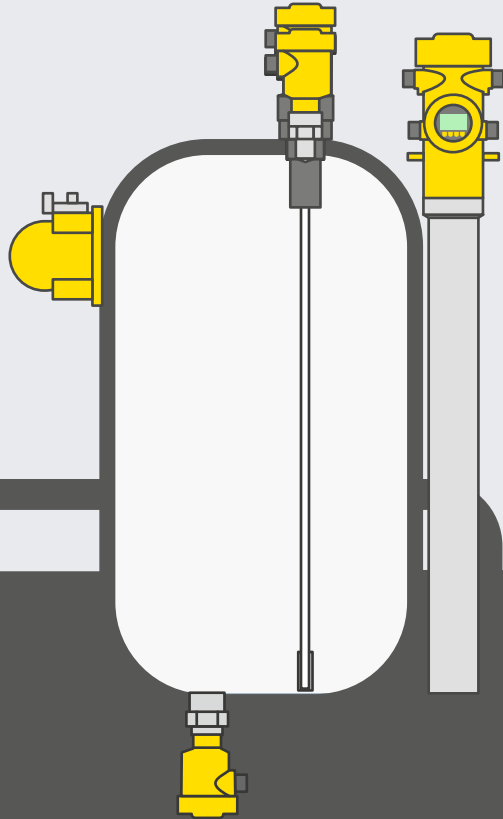


Pressure measurement



Control units & communication

# Continuous level measurement



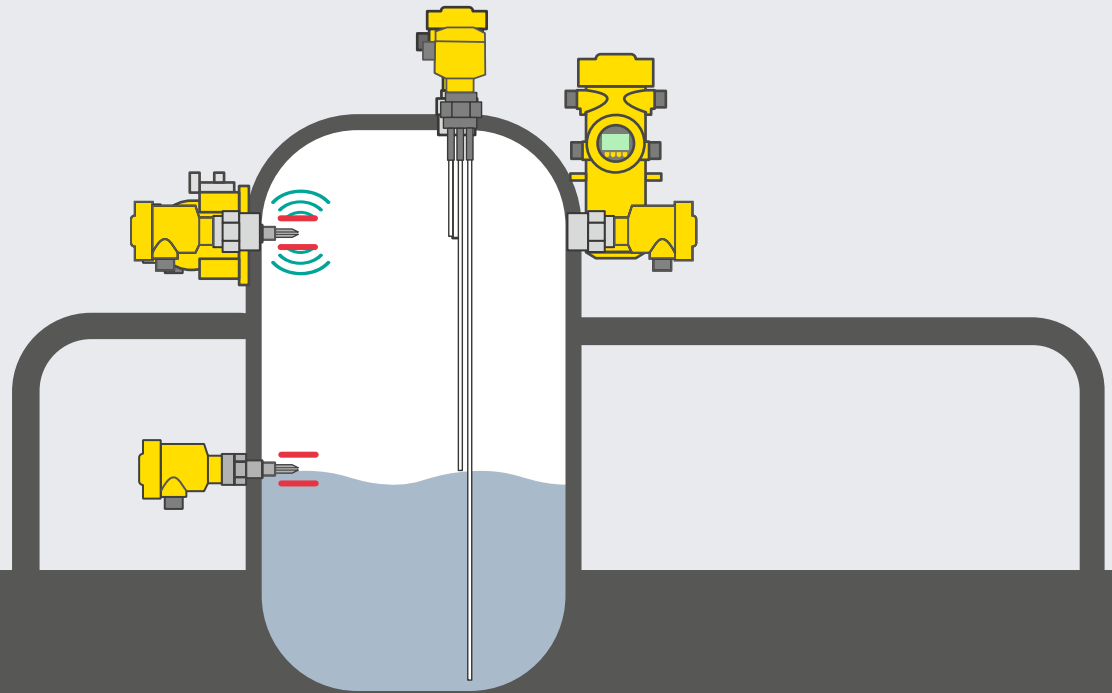
## THE MEASUREMENT METHODS

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

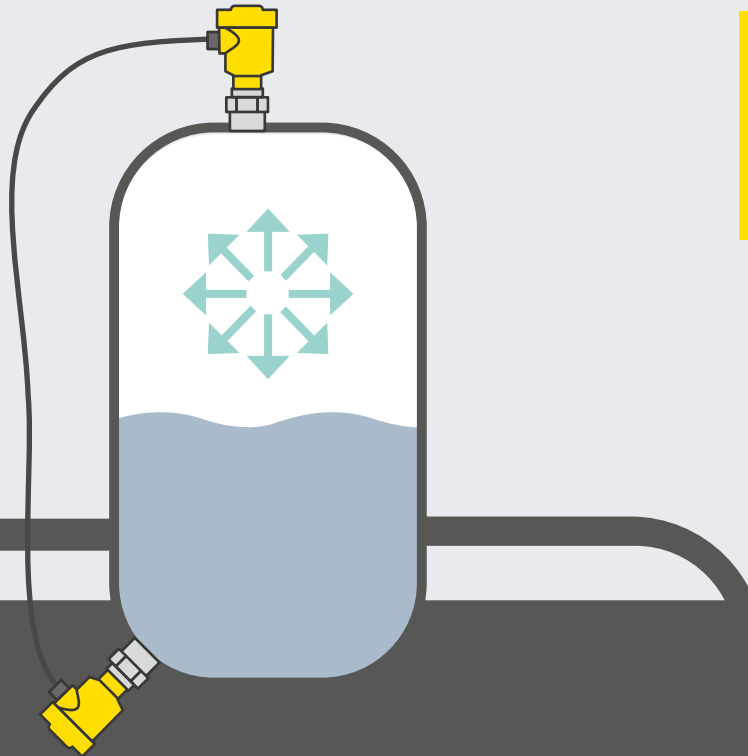
# Safe level detection

## THE MEASUREMENT METHODS

- Vibration
- Conductive
- Capacitive
- Radar
- Radiometric



# Universal pressure measurement



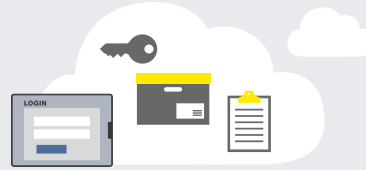
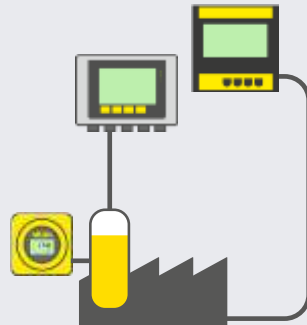
## THE MEASUREMENT METHODS

- 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

### 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

### 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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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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## 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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## 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



Visualization and operation via web browser



## 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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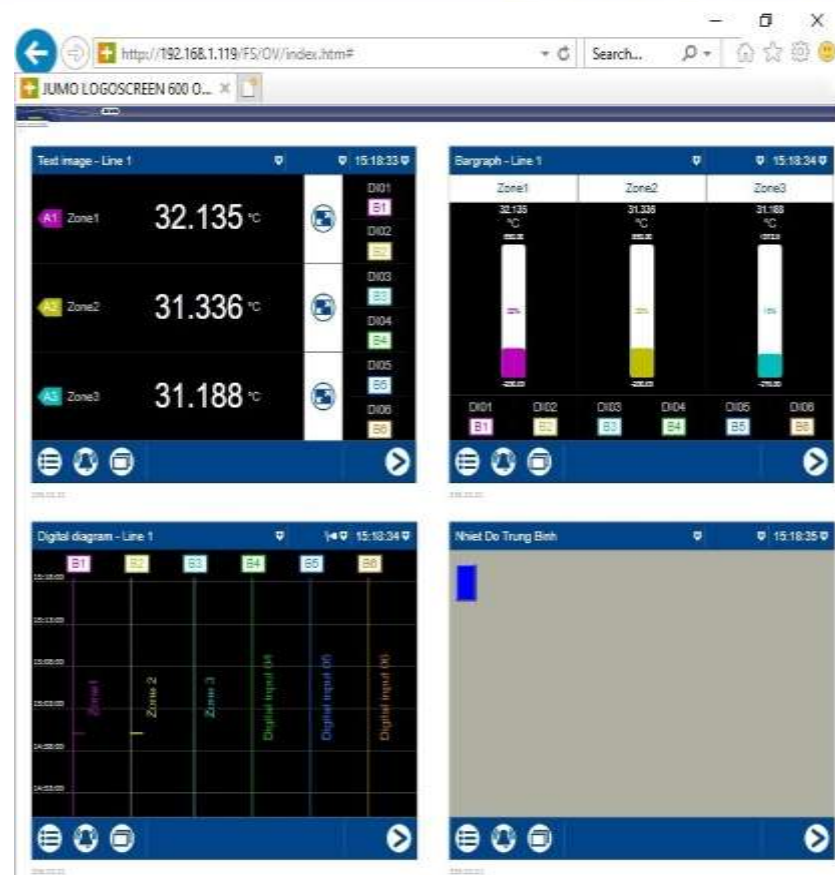


## II. Solutions for Measurement & Automation Applications

### 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



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Pyrometers



IR cameras



Accessoires



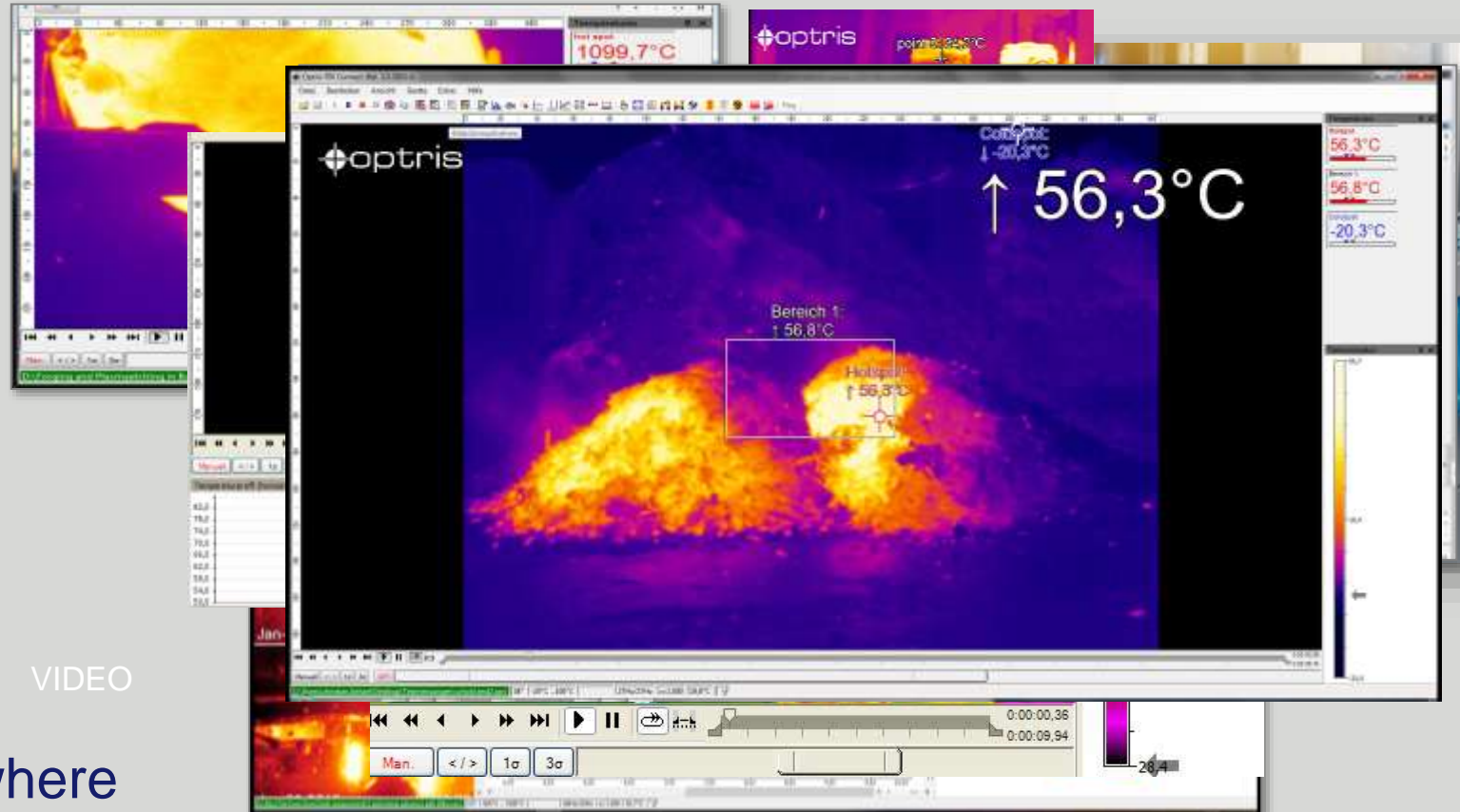
Software

# 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.



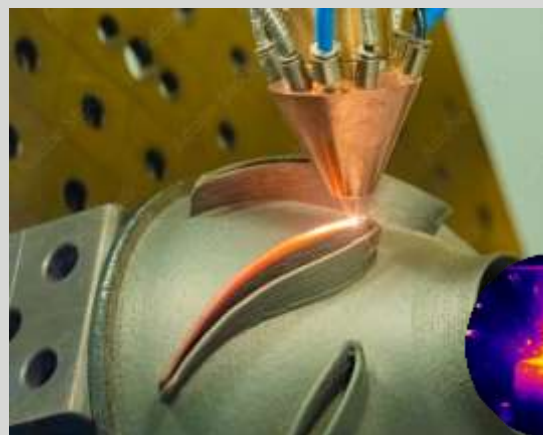
### Plastics industry

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



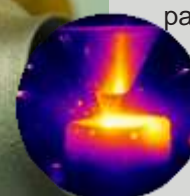
### Medical/ biological science

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.



# Product portfolio

## ■ Infrared cameras



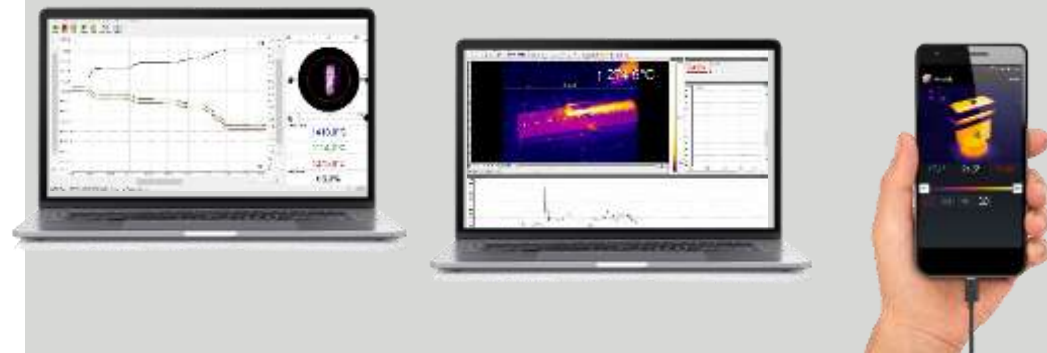
## ■ Infrared thermometers



## ■ 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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Checking installation  
from Optris specialist



PI 450i



PC with Optris PIX Connect software

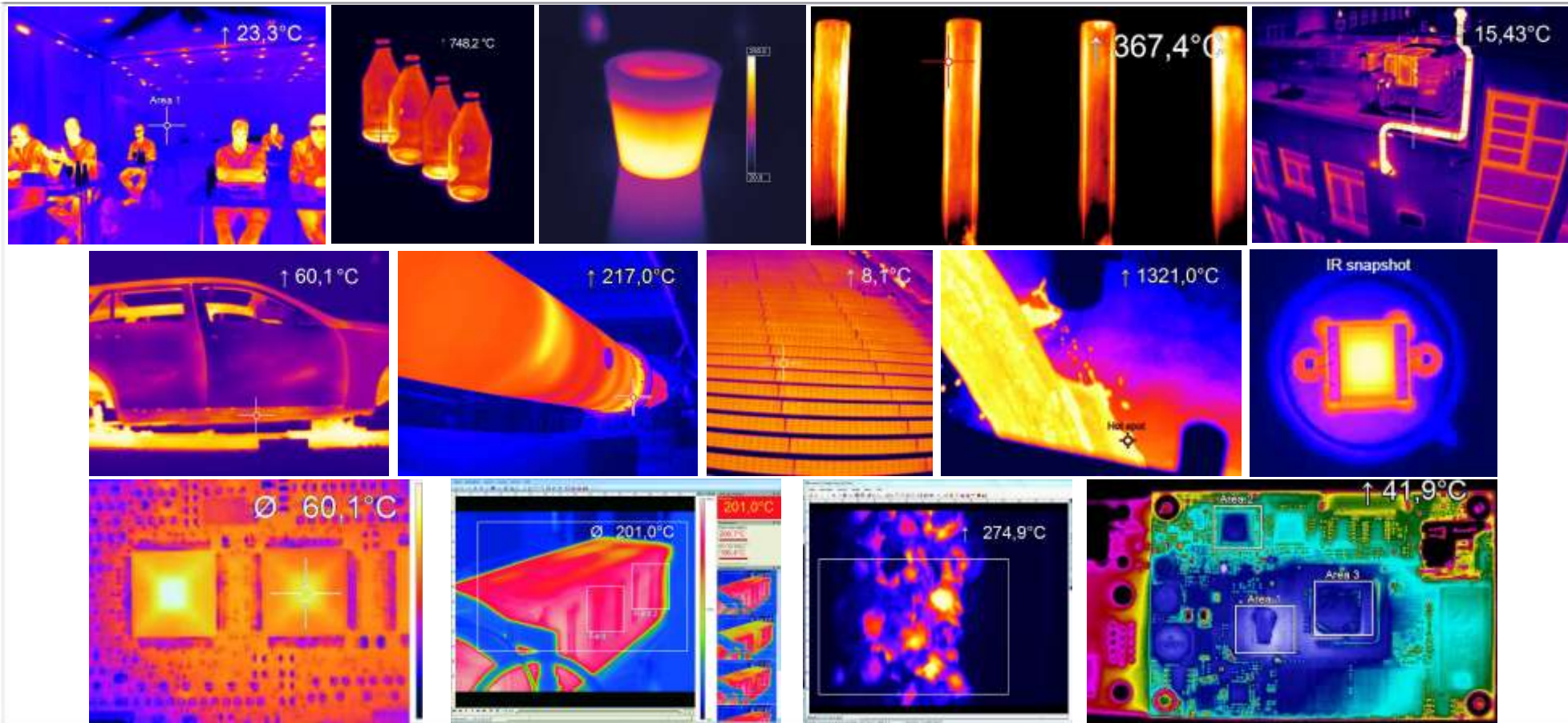
Glass manufacturer

## II. Solutions for Measurement & Automation Applications

### 3. Optris thermal images



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## II. Solutions for Measurement & Automation Applications

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



**HUYNH BANG**

**COMPANY**



**made  
in  
Germany**





# II. Solutions for Measurement & Automation Applications

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



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

### 4. KEM references



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## II. Solutions for Measurement & Automation Applications

### 4. KEM references











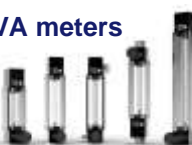

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## II. Solutions for Measurement & Automation Applications

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



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

# 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





# II. Solutions for Measurement & Automation Applications

## 5. Vögtlin Instruments GmbH - Applications



HUYNH BANG

Permeability measurements of concrete



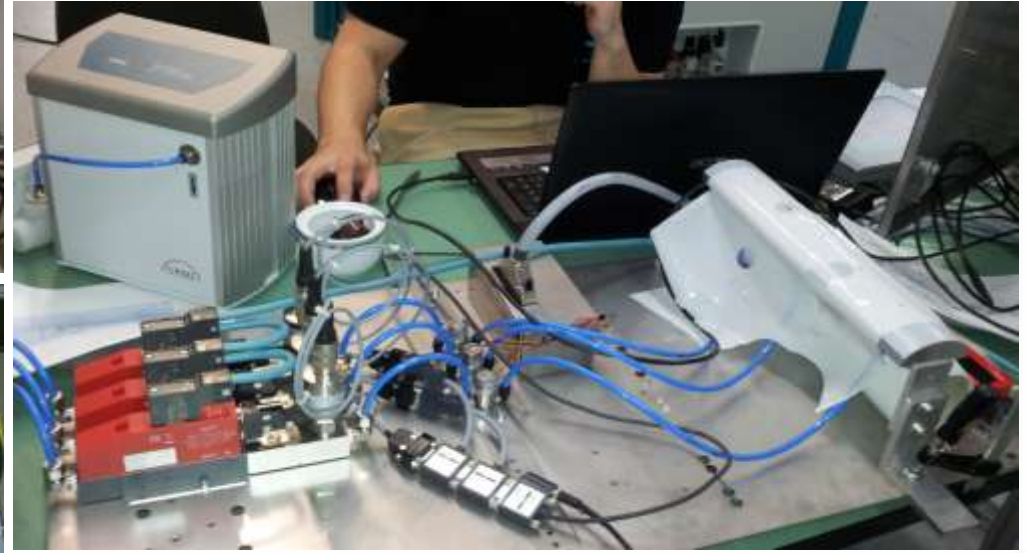
Permeability test of membranes



Test on valves of coffee packaging



Calibration device for reviewing test leaks



# II. Solutions for Measurement & Automation Applications

## 5. Vögtlin Instruments GmbH - Applications



HUYNH BANG

Inline gas mixer



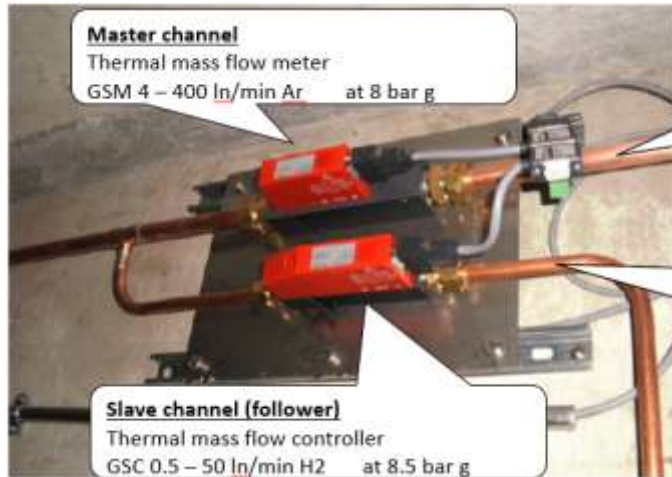
Mixing block GZB / GRB



Aluminium billet caster



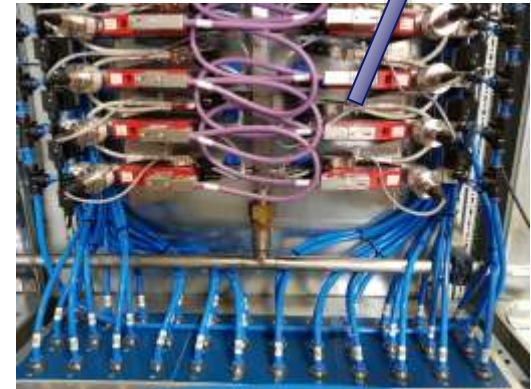
**Master channel**  
Thermal mass flow meter  
GSM 4 – 400 l/min Ar at 8 bar g



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](#)



## 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



**HUYNH BANG**

COMPANY



## II. Solutions for Measurement & Automation Applications

### 6. Meister Variable Area Flow Meters



HUYNH BANG

COMPANY



## II. Solutions for Measurement & Automation Applications

### 6. Meister – **AMFE** (Automatic Miniature Fire Extinguisher)



HUYNH BANG

#### DEVICE-INTEGRATED FIRE PROTECTION FOR: CONTROL CABINETS | FUSE BOXES | SERVER CABINETS

**AMFE**  
AUTOMATIC MINIATURE FIRE EXTINGUISHER

In control cabinets and systems, a fire can easily cause major damage. The AMFE extinguishes reliably and precise

#### Further advantages:

- Can be connected with fire alarm systems
- Combinable with smoke alarms for smoldering fire
- Remote release possible
- Suitable for all industries



#### THE AMFE FUNCTIONING PRINCIPLE





## II. Solutions for Measurement & Automation Applications

### 6. Meister – **AMFE** (Automatic Miniature Fire Extinguisher)

#### AMFE: PRODUCT VARIATIONS

##### AMFE:

- Basic version
- Stand-alone product
- Automatically triggered by temperature
- Available for various standard operating temperatures



AMFE & extinguishing agent FK-5-1-12

##### S-AMFE:

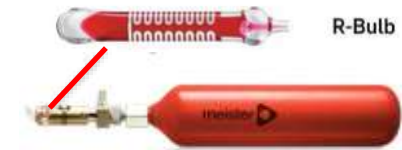
- Conductive thermo-bulb
- 2-tab terminals mounted on activation head
- Normally-closed control circuit will be interrupted
- Signaling function to user that AMFE has discharged



S-AMFE & extinguishing agent FK-5-1-12  
(with electric signal connections)

##### R-AMFE:

- Remote control to trigger activation
- Interconnected Multi-alert® system
- Integration of external sensors (e.g., smoke detectors)



R-AMFE & extinguishing agent FK-5-1-12  
(with electric signal connections)

## II. Solutions for Measurement & Automation Applications

### 6. Meister – **AMFE** (Automatic Minature Fire Extinguisher)



HUYNH BANG

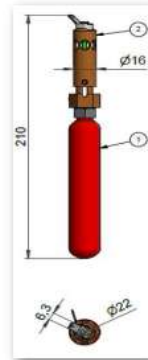
#### AMFE: PRODUCT SIZES

Cylinder Size	Cylinder Dimensions [mm]	Volumes [Liter]	Cylinder content [ml]	Protected Volume acc. to Fire Protection Class A (NFPA2001) [m³]
0	22 x 128	0,024	22	0,06
1	35 x 154	0,080	72	0,19
2	40 x 186	0,133	120	0,32
3	51 x 251	0,267	241	0,64
4	51 x 356	0,400	360	0,96
5	60 x 380	0,670	603	1,61

Electrical Cabinet Description	Dimensions (HxWxD) in mm			Volume in m³	Recommended <b>AMFE</b> Size
Factory # 1	800	600	250	0.12	1
Factory # 2	1500	800	300	0.36	3
Factory # 3	2500	1000	600	1.5	5



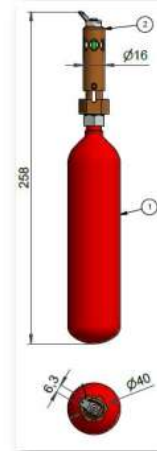
Try to sizing here



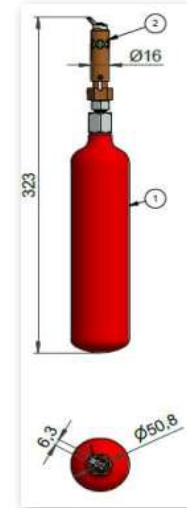
Size 0



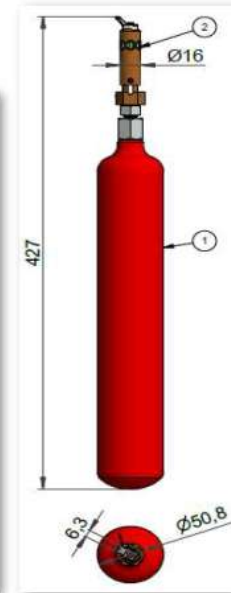
Size 1



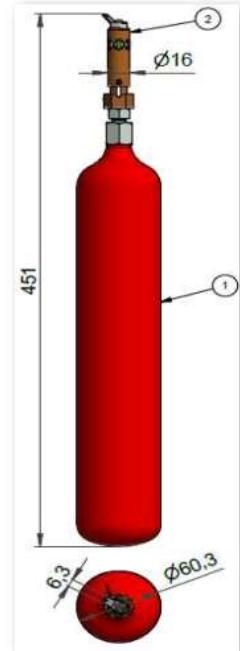
Size 2



Size 3



Size 4



Size 5

## II. Solutions for Measurement & Automation Applications

### 6. Meister – **AMFE** (Automatic Minature Fire Extinguisher)



**HUYNH BANG**

COMPANY

#### AMFE: INSTALLATION EXAMPLES

AMFE



S-AMFE



R-AMFE





## II. Solutions for Measurement & Automation Applications

### 6. Meister – **AMFE** (Automatic Minature Fire Extinguisher)

#### AMFE: CUSTOMER ADVANTAGES

Automatic fire detection and extinction

Fire extinguishing network with Multialert®

No harm to humans & components (FK-5-1-12)

Low maintenance, 10 years product life cycle

Customizable activation temperatures available

Heat removal from the flame (no flash-over effect)

Faster fire extinction than with CO<sub>2</sub>



Scalable

Retrofitting option

Cost effective solution

Easy to use and install

Easy integration into existing fire alarm

No power supply

All safety certifications available

## 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 (Sm<sup>3</sup>/h, Nm<sup>3</sup>/h)



Temperature



## II. Solutions for Measurement & Automation Applications

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



#### 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






**HUYNH BANG**

**COMPANY**

#### For Cleanrooms in

-  Pharmaceutical Industry
-  Food Industry
-  Semiconductor Industry

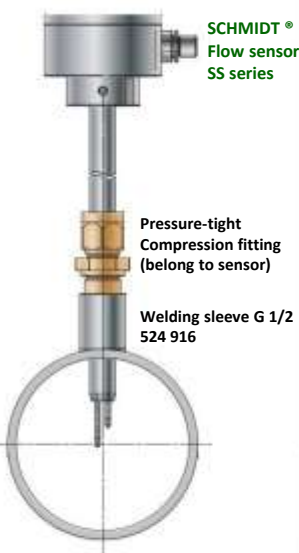
#### For the Application in

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



# II. Solutions for Measurement & Automation Applications

## 7. SCHMIDT Technology – Mounting variations



SCHMIDT®  
Flow sensor  
SS series

Pressure-tight  
Compression fitting  
(belong to sensor)

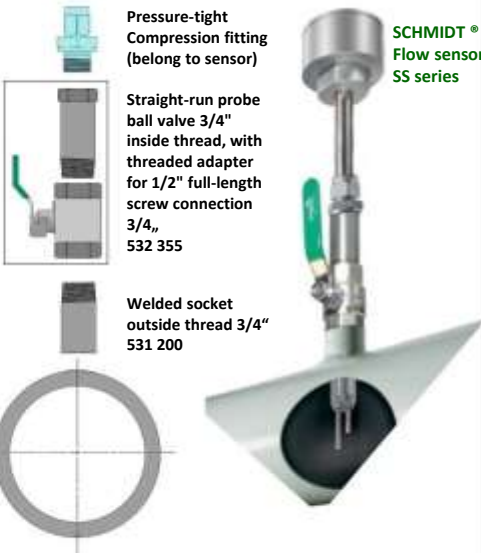
Welding sleeve G 1/2  
524 916

Pressure-tight  
Compression fitting  
(belong to sensor)

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

Welded socket  
outside thread 3/4" 531 200

**Variation #1 –  
Direct mounting**



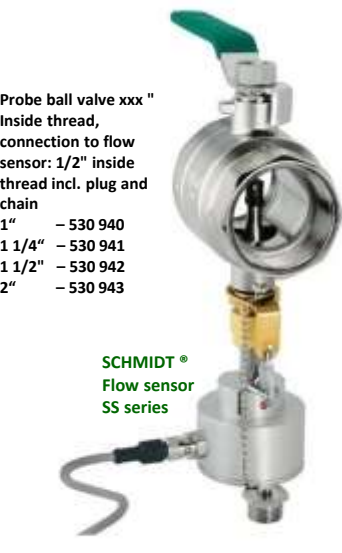
SCHMIDT®  
Flow sensor  
SS series

Pressure-tight  
Compression fitting  
(belong to sensor)

Straight-run probe  
ball valve 3/4" 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

**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

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

**Connecting cable, LED display &  
pipe assembly kit**

## II. Solutions for Measurement & Automation Applications

### 7. SCHMIDT Technology references



HUYNH BANG





## II. Solutions for Measurement & Automation Applications

8. Vaisala- Headquarters in Vantaa, Finland



HUYNH BANG



**VAISALA**



# Vaisala Process Refractometer solutions

## By industry



Pulp and paper

Food and beverage

Chemicals

Semicon and electronics

Metals and mining

Life science

Oil and gas

Renewable energy

## By application



Mixing/blending

Dissolving

Evaporation

Cooking

Chemical recovery

Filtration/separation

Crystallization

Polymerization

Interface detection

Washing

Wet scrubbing

Quality control

## By unit of measure



Conc. % by weight

Refractive index nD

Liquid density

Brix

Total solids TS

Total dissolved solids TDS

Plato

Baume

Oechsle



# Vaisala Polaris process refractometer



Refined 5<sup>th</sup>  
generation reliability



Vaisala quality



Robust design



Engineer to  
order service



Drift-free  
measurement



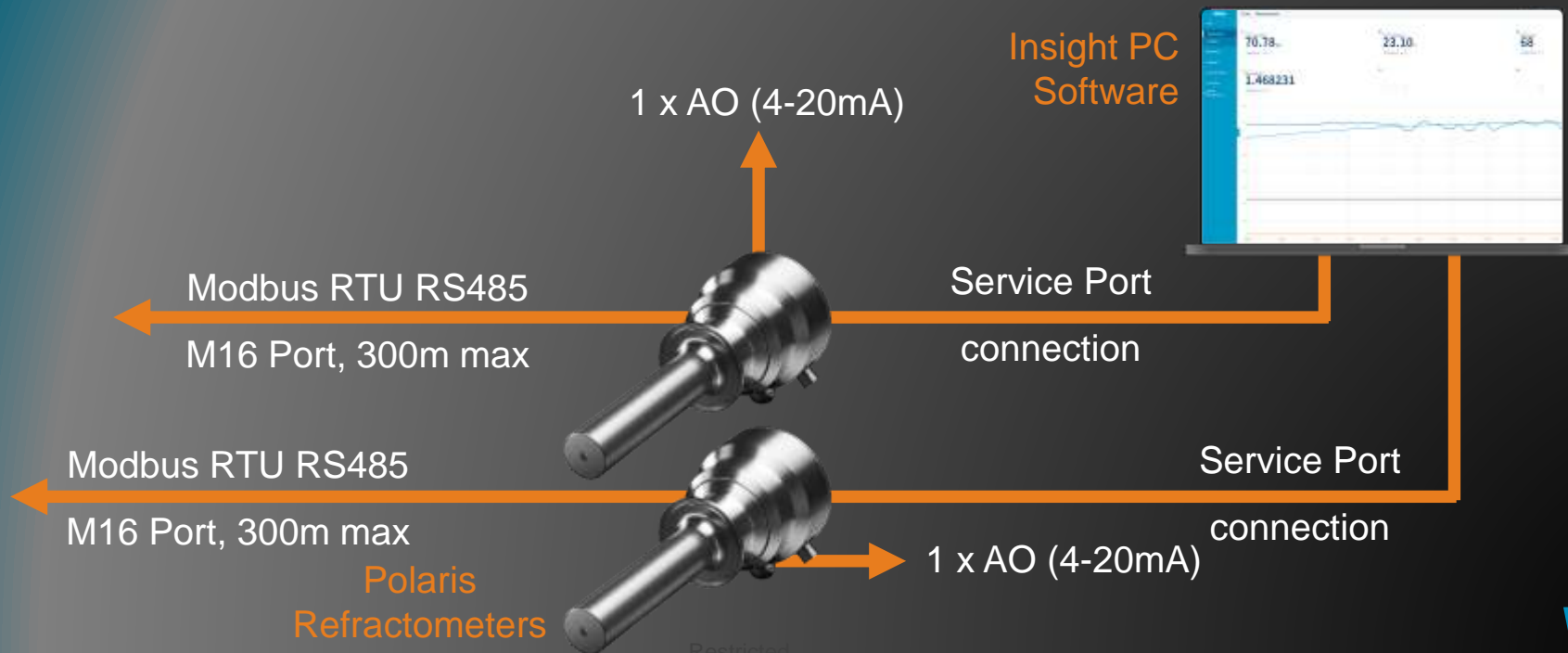
Global and local  
customer service  
and support



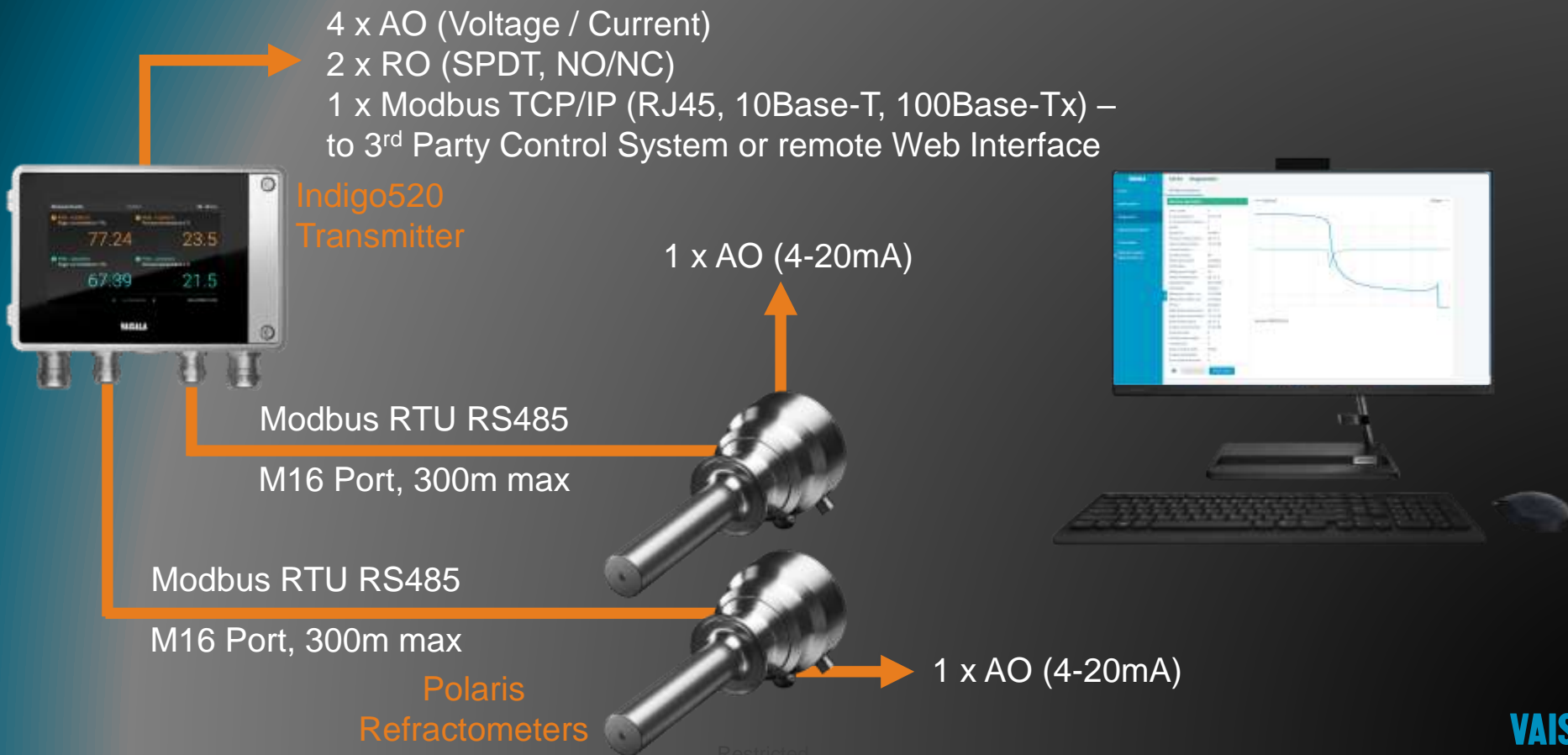
Widest offering and  
industry expertise



# Vaisala Polaris process refractometer (Schematic)



# Vaisala Polaris process refractometer (Schematic)

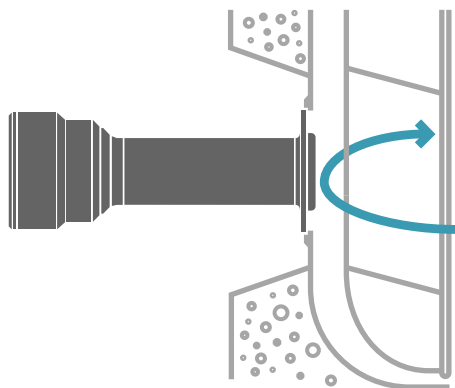
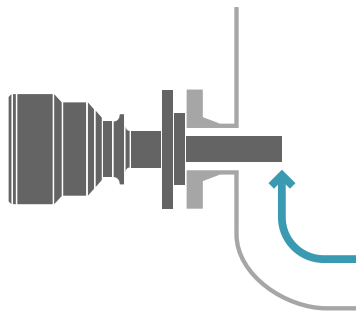




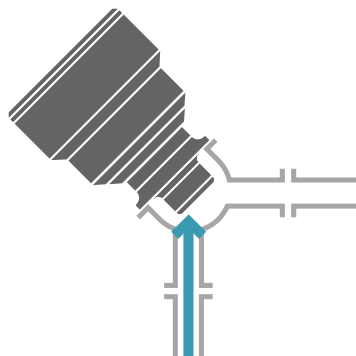
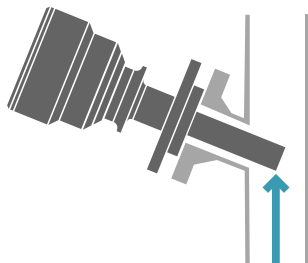
# Vaisala Process Refractometer

## Installation Flexibility

### ■ Vessel/Tank

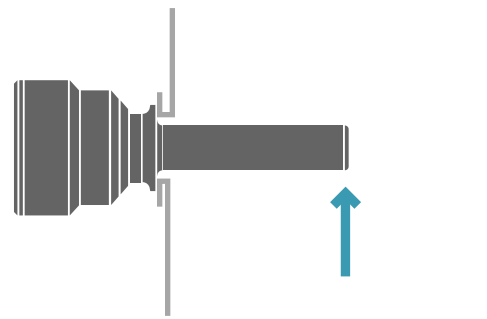
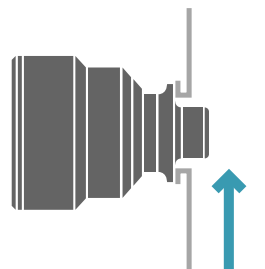


### ■ Pipeline

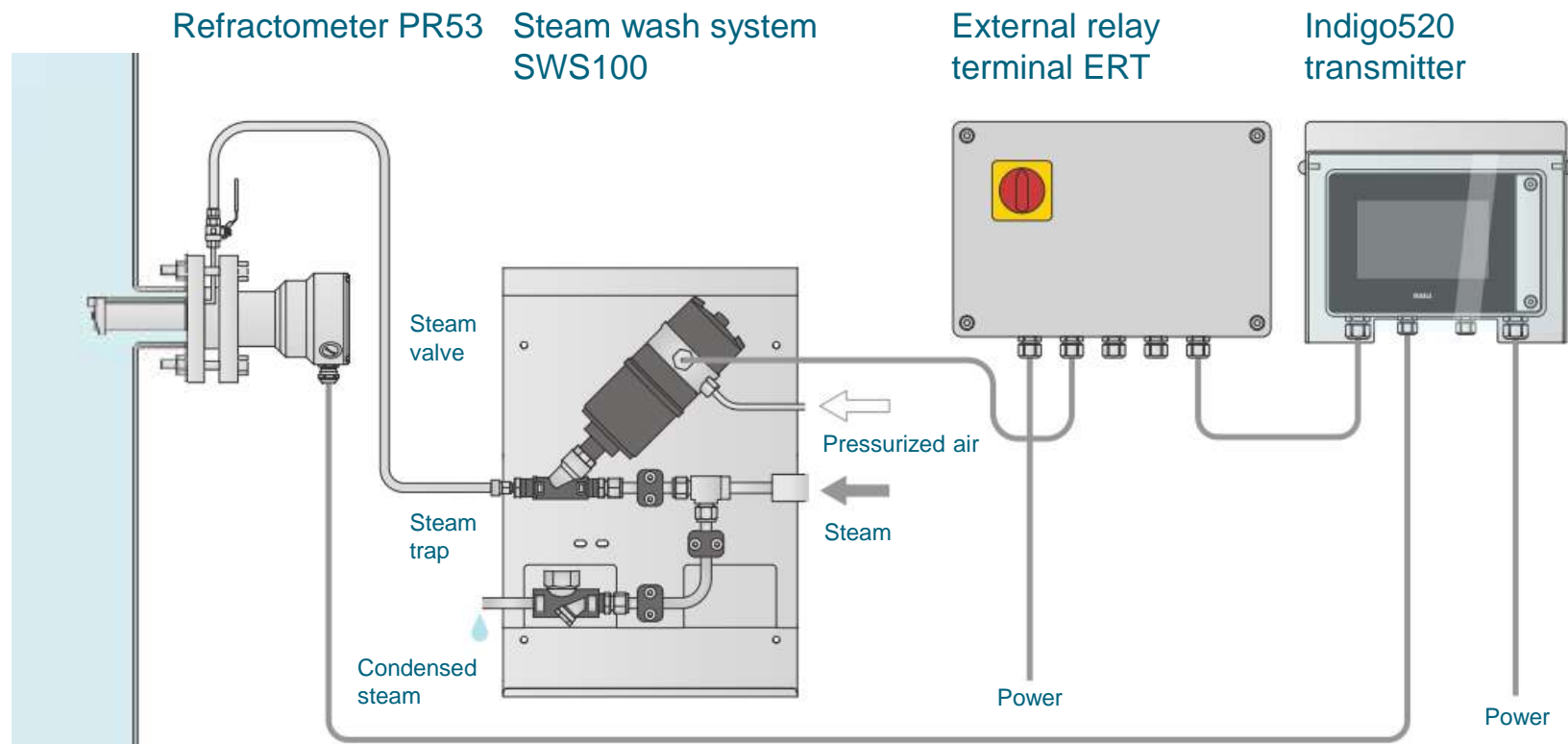


Restricted

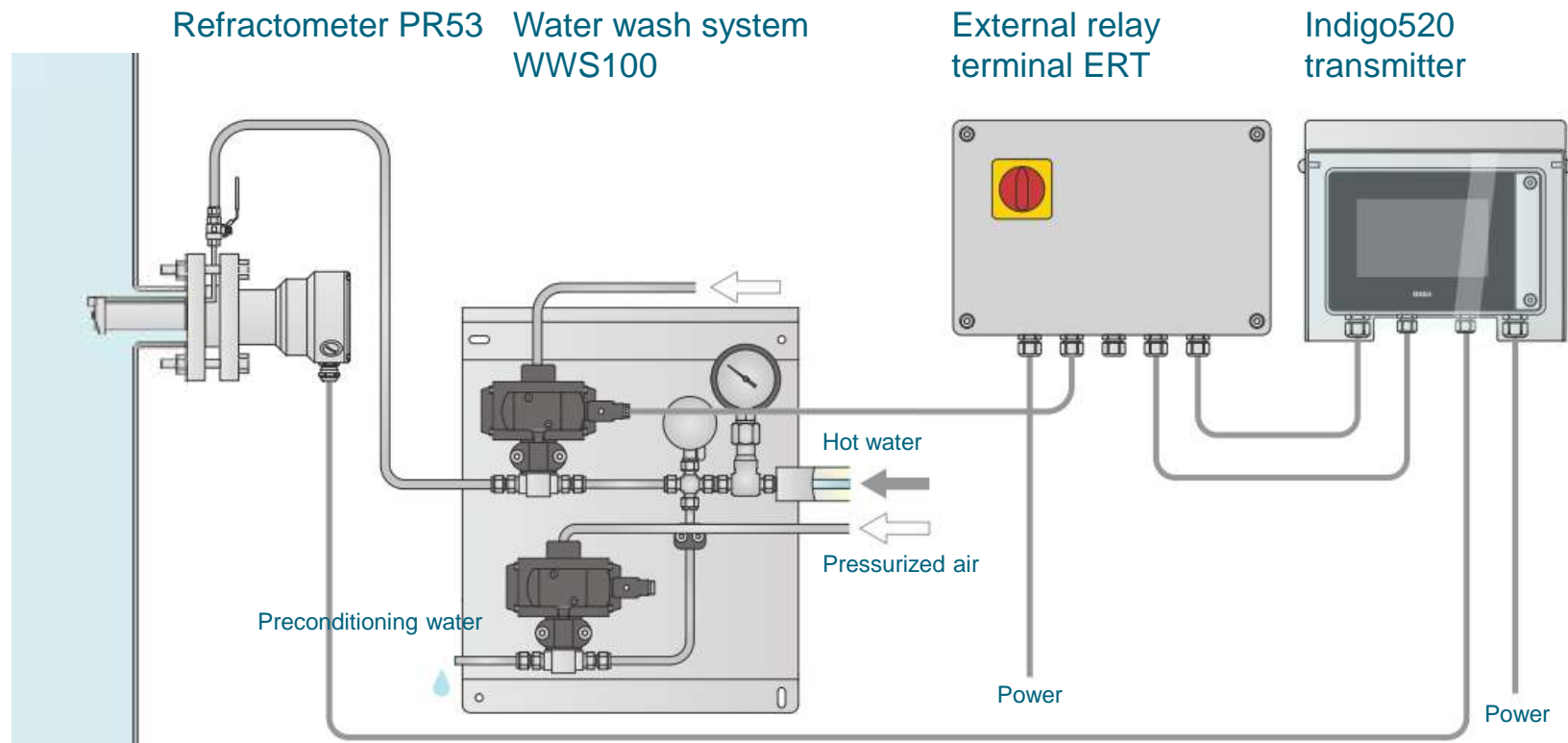
### ■ Varivent



# Steam Wash System

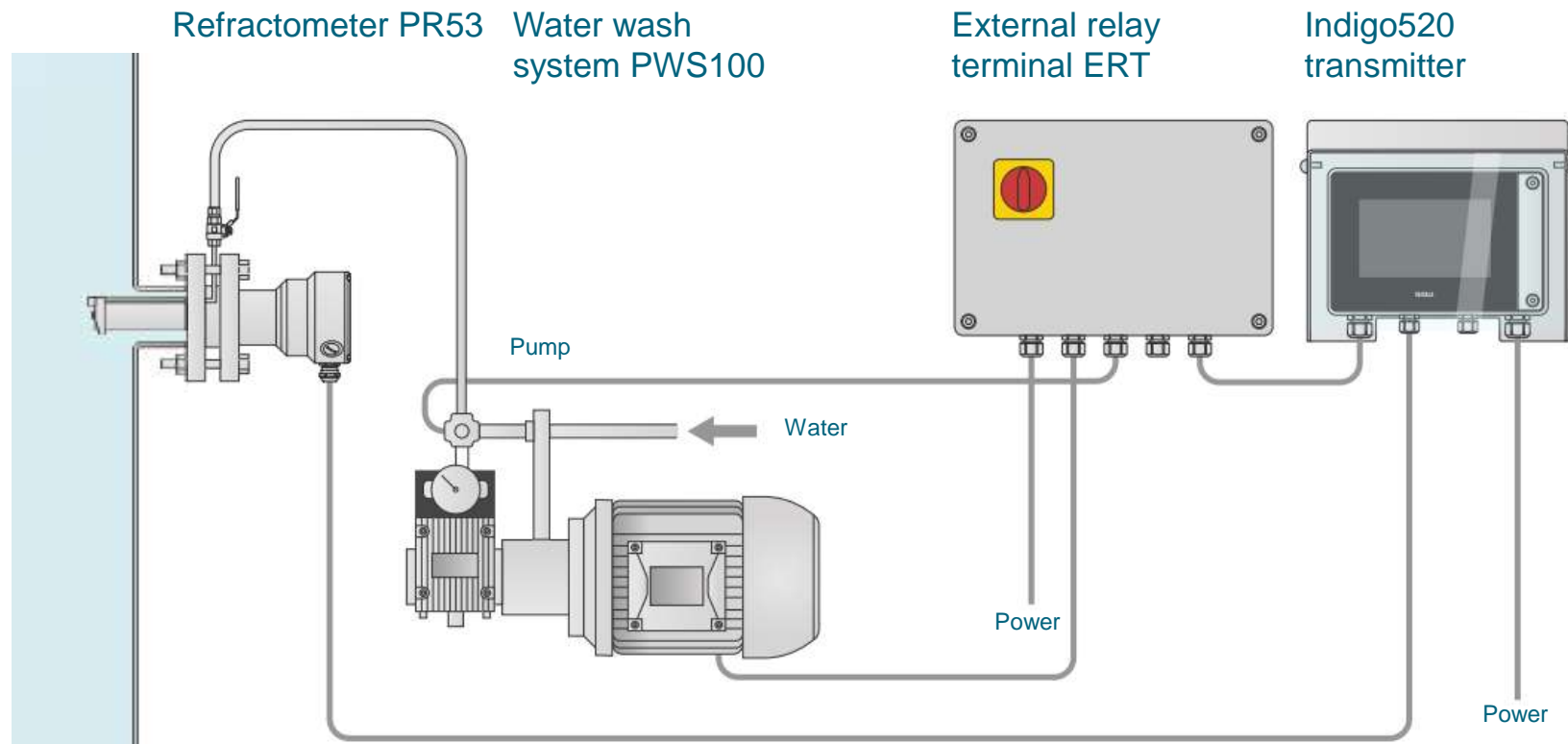


# Water Wash System





# Pressurized Wash System



# Refractive Index

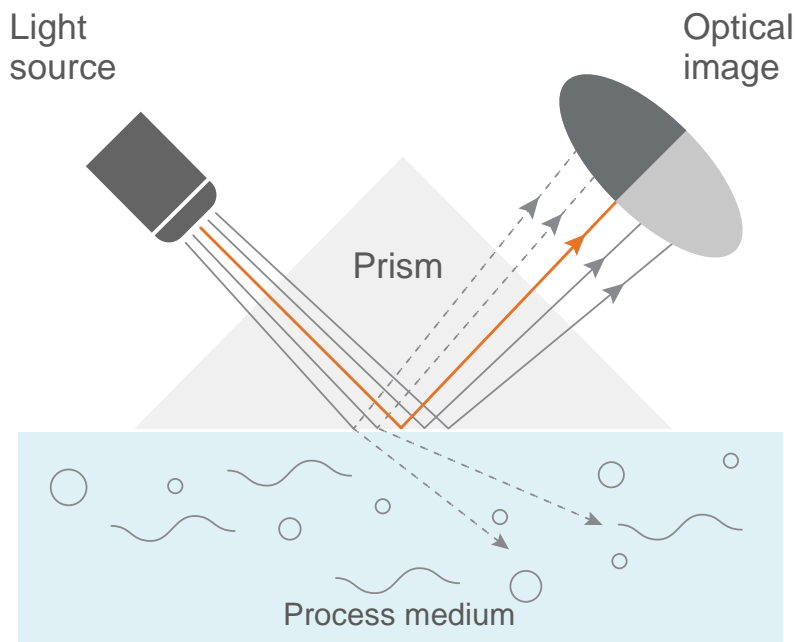


- Physical Property of a substance
- Measurable
- No chemical change
- “Power of Bending the light”
- Concentration of the solution affect Power of Bending or Refractive Index
- Higher Concentration, more bend

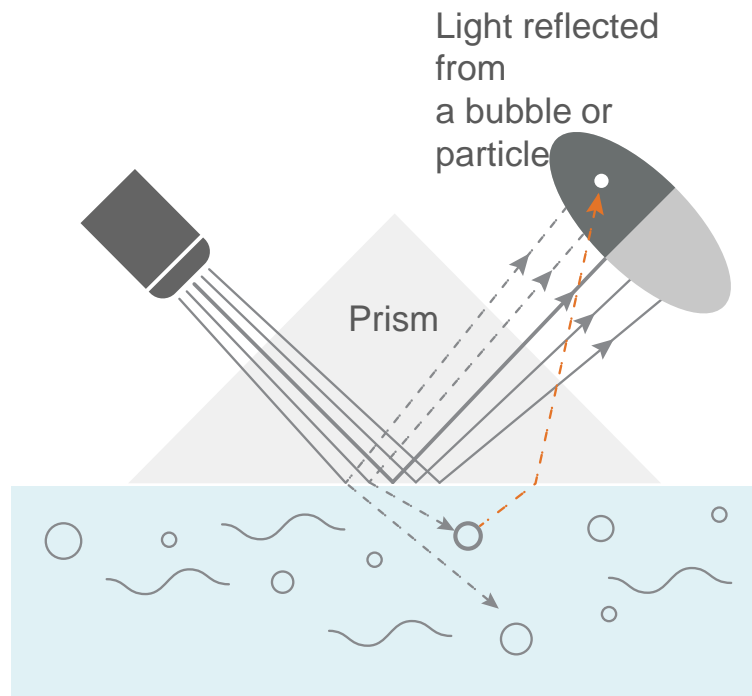
## Refractometer Animation



# Critical angle measurement



No moving parts  
No Drift  
No Re-calibration



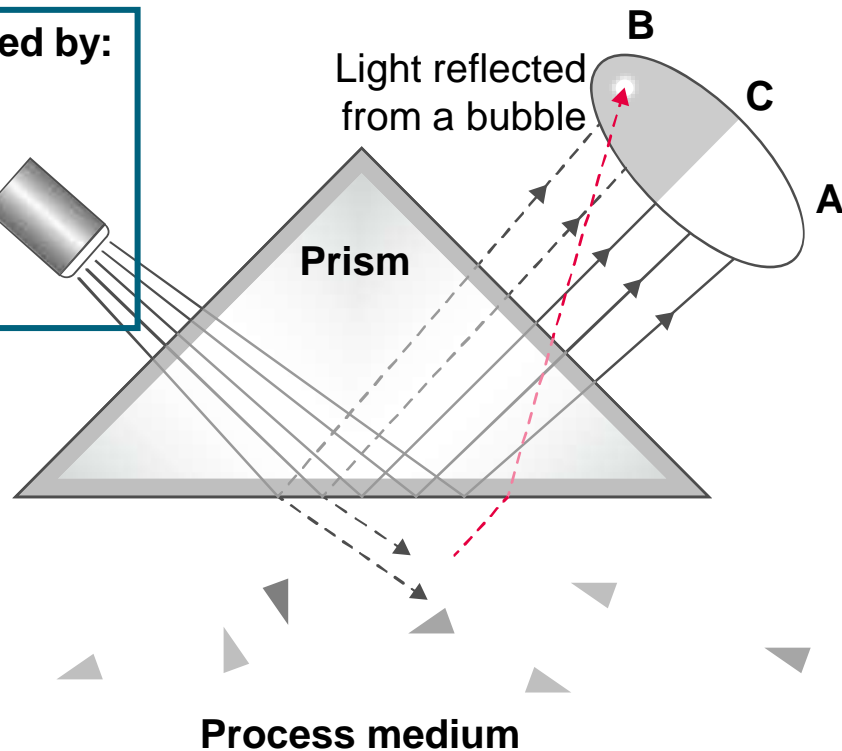
Not influenced by  
Particles, Bubbles or Color,  
Flow regime and Internal pipe coating

# True Measurement of Dissolved Components

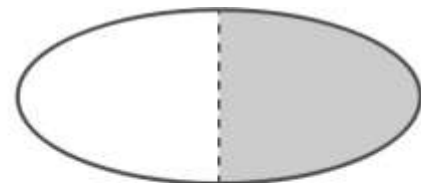
## Digitization reduce Measurement Uncertainty

### Not affected by:

- Crystals
- Particles
- Bubbles
- Colour



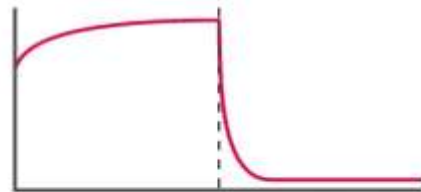
Optical image



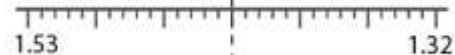
CCD camera



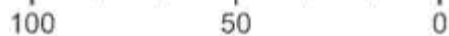
Digital image



Refractive index  $n_D$



Conc. %



# Drift-free measurement with outstanding stability

Built to last and measure in most demanding process conditions

- CORE-optics
- Electronics isolated from process temperature





# Drift-free measurement with outstanding stability

Built to last and measure in most demanding process conditions

Not Affected by

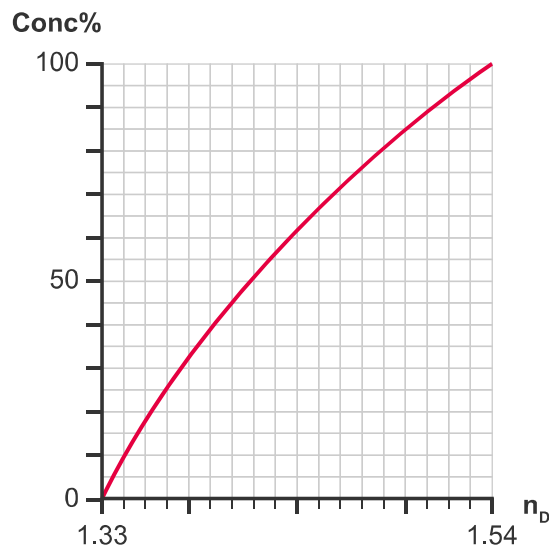
- Vibration
- Temperature Shock
- Pressure Peak



# Vaisala Process Refractometer

## Exact Calibration

### Refractive Index $n_D$ and Concentration Conversion



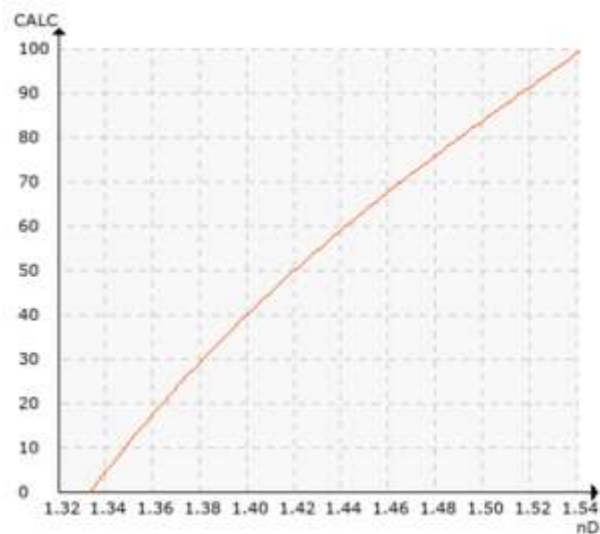
Matches exactly

### Standard Concentration Tables

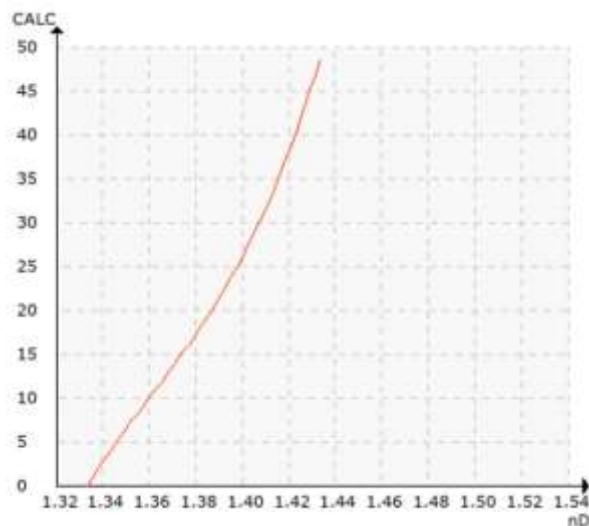
Conc%	$n_D$
0	1.3300
10	1.3478
20	1.3639
100	1.5400

# From Refractive Index to Concentration Value

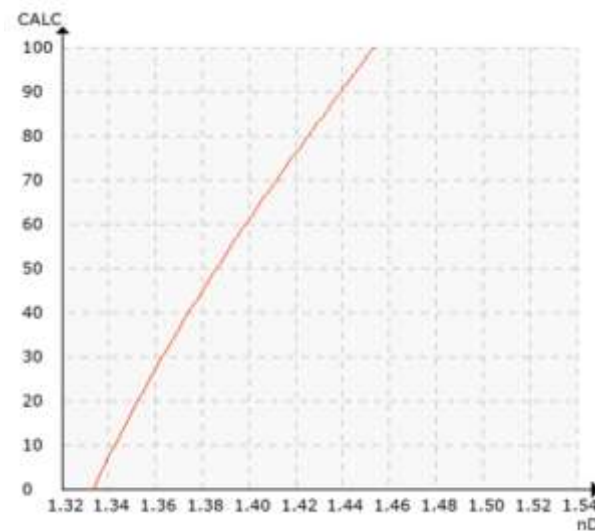
Sugar (°Brix)



Caustic Soda (% bw)



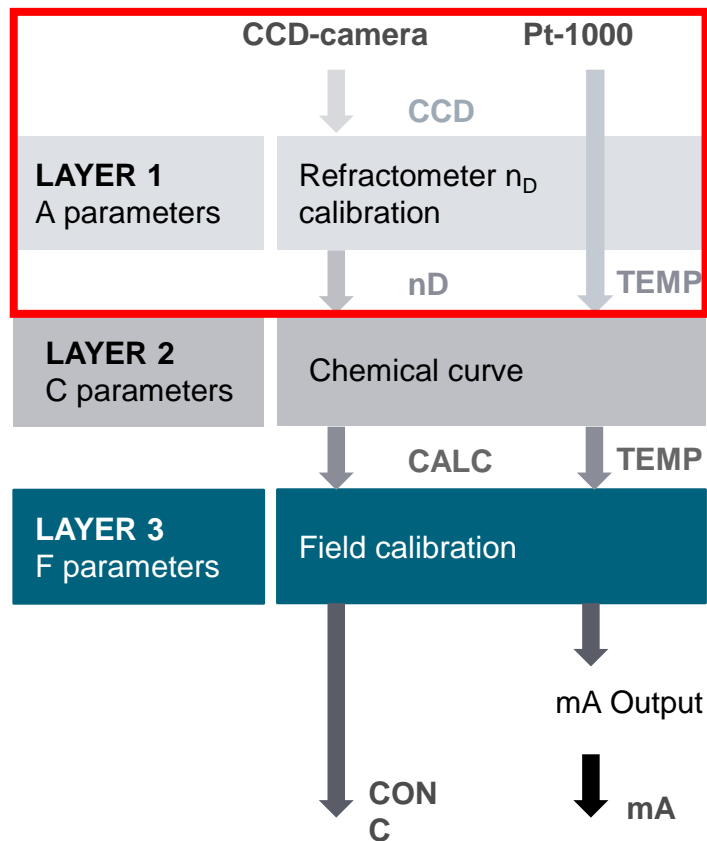
Phosphoric Acid (% bw)





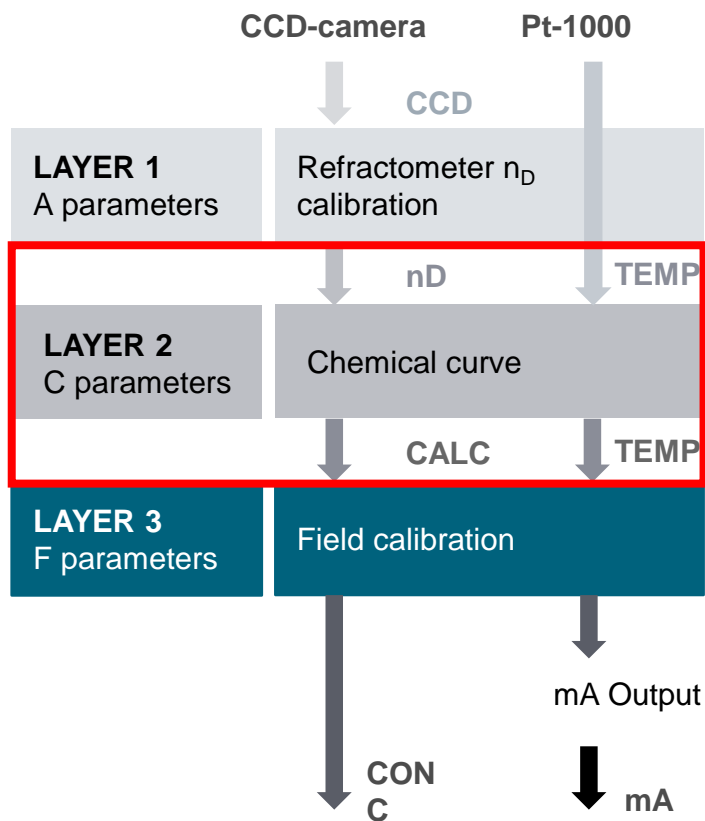
# Vaisala Process Refractometer

## Unique 3-Layer Calibration (layer 1)

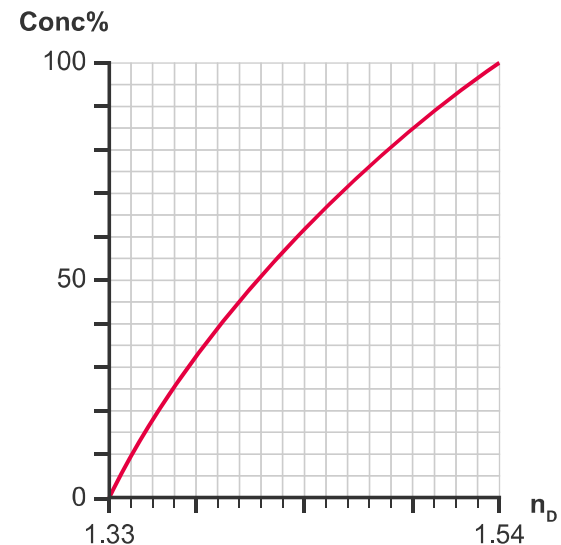


# Vaisala Process Refractometer

## Unique 3-Layer Calibration (layer 2)

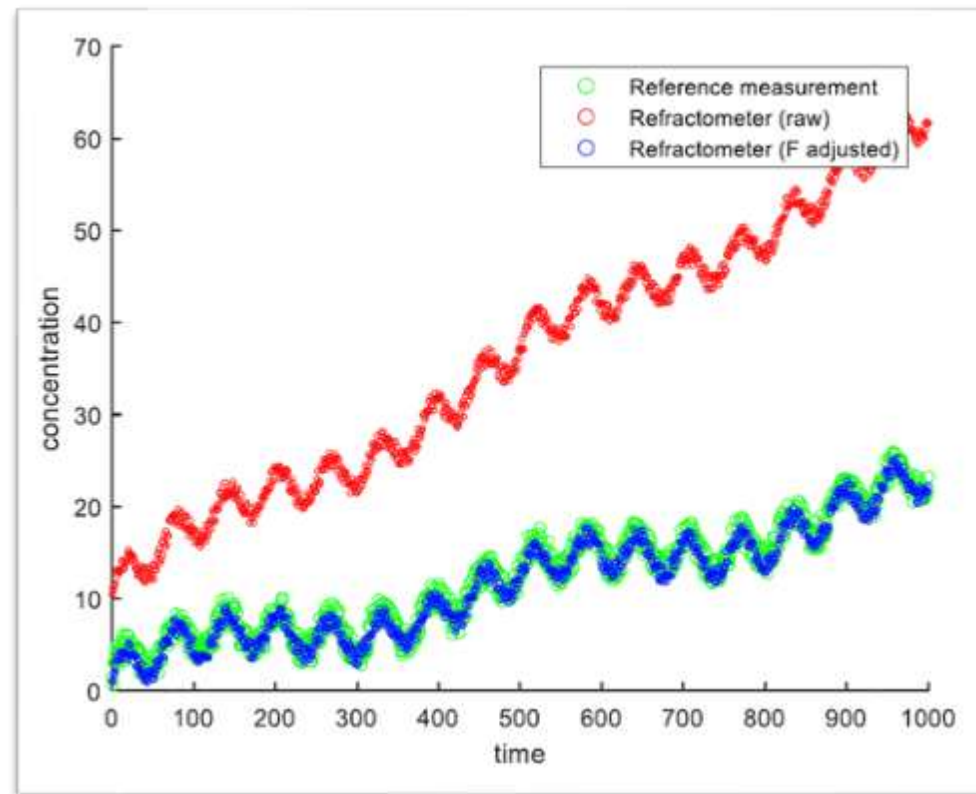
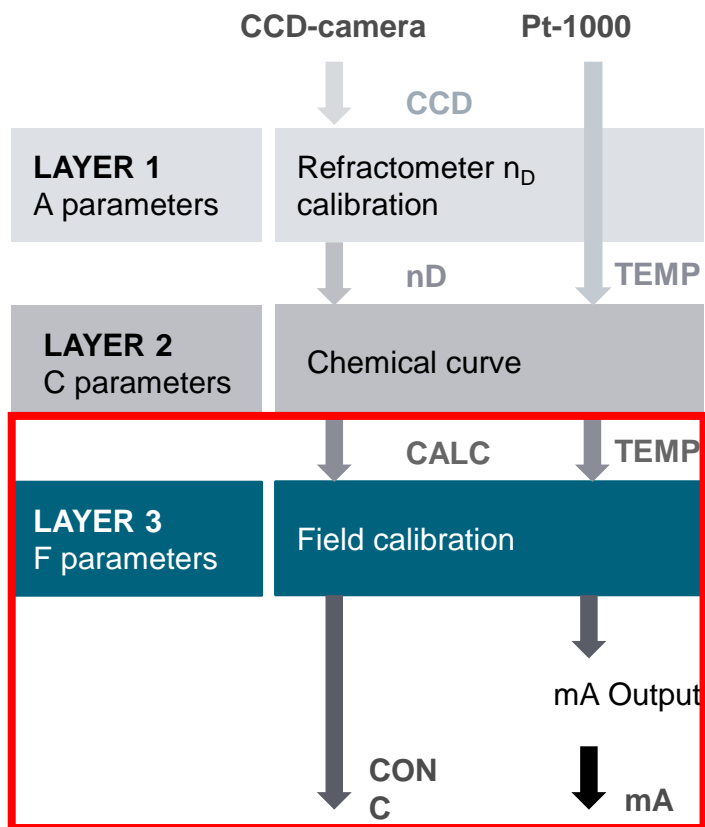


## Refractive Index $n_D$ and Concentration Conversion



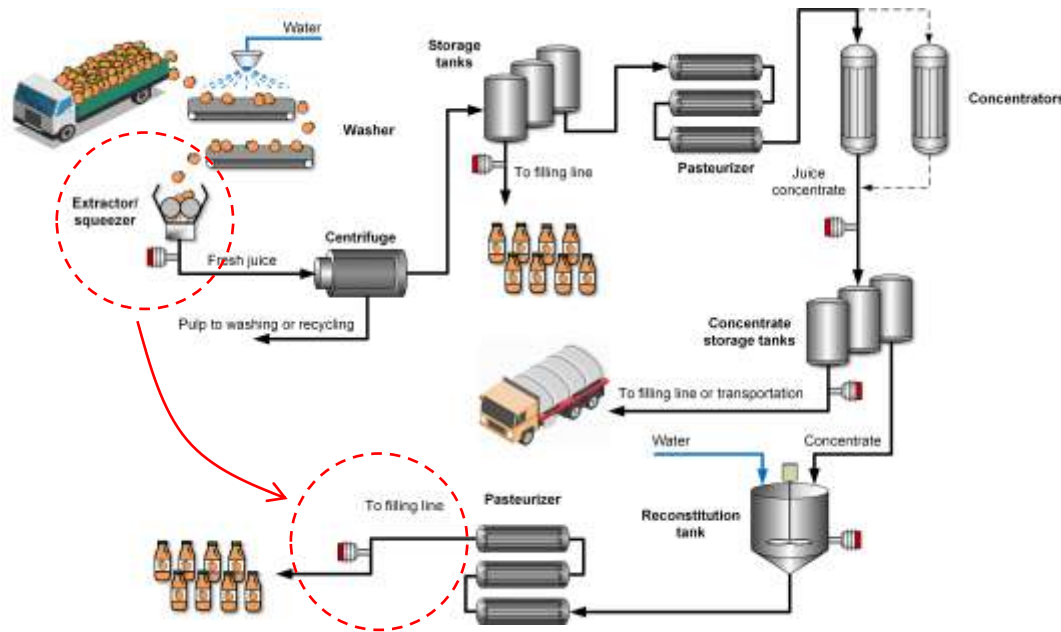
# Vaisala Process Refractometer

## Unique 3-Layer Calibration (layer 3)



# Vaisala Process Refractometer

## Unique 3-Layer Calibration

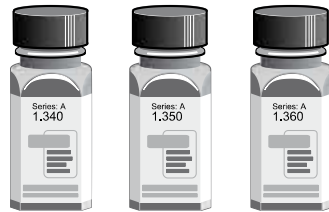


- Easy Interchangeability
- No mechanical adjustments when recipes and/or application change
- Not required to send sensors back to factory for recalibration
- Protect your investment as your production plan changes



# Vaisala Process Refractometer

## Reproducible Sensor Verification



$n_D$  calibration is traceable  
to international standards



# Application check list for hygienic processes

<b>Measurement principle</b>	Refractive index sensitive to dissolved material only
<b>Range and accuracy</b>	Full range, 0-100 Brix, accuracy +/- 0.1 Brix, repeatability +/- 0.05%
<b>Absolute maximum process temperature rating</b>	Compact probe: 130°C (266°F), Long probe: 150°C (300°F)
<b>Process pressure</b>	Max. 40 bar (580 psi) at +20 °C, operating pressure to the clamp rating pressure
<b>Process connection</b>	3-A Sanitary or Varinline® coupling, tank bottom flange, selection of flow cells (optional)
<b>Wetted parts materials</b>	EN 1.4404, 1.4435 (AISI 316L), Sapphire, 1.4435 (flow cell)
<b>Pipe diameter and flow</b>	Smaller diameter = better velocity, recommended flow velocity min. 1.5 m/s (5 ft/s)
<b>Ambient temperature</b>	–40 ... +60 °C (–40 ... +140 °F), optional cooling cover for higher temperatures
<b>User interface</b>	Optional Indigo520 transmitter (for up to 2 refractometers), Web UI
<b>Cabling</b>	Up to 300 m

# Vaisala Process Refractometer

## The Best Way to Measure Concentration

- End-Product Yield & Quality Assurance
- Production Speed & Throughput
- Production Uptime & Availability
- Reduce waste and rework
- User friendly to operate and maintain
- Minimal utilities consumption
- Safety, Health and Environment

- Accurate
- No calibration drift
- Maintenance free



# II. Solutions for Measurement & Automation Applications

## 8. Vaisala references from Pulp & Paper Industry and Vaisala Service Training



HUYNH BANG





## II. Solutions for Measurement & Automation Applications

8. Vaisala sensor verification done by Huynh Bang.



HUYNH BANG



## II. Solutions for Measurement & Automation Applications

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



**HUYNH BANG**

**COMPANY**



J.M. Canty, USA  
6100 Donner Road  
Buffalo, NY 14094  
Phone: (716) 625-4227  
Fax: (716) 625 - 4228

Email: [sales@jmcanty.com](mailto: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](mailto:sales.ie@jmcanty.com)

## II. Solutions for Measurement & Automation Applications

### 9. CANTY High Temperature Camera Systems

#### 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

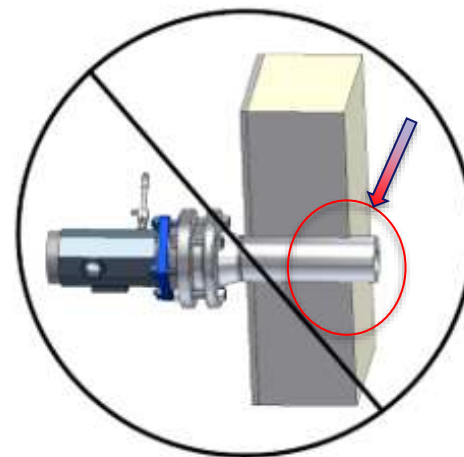
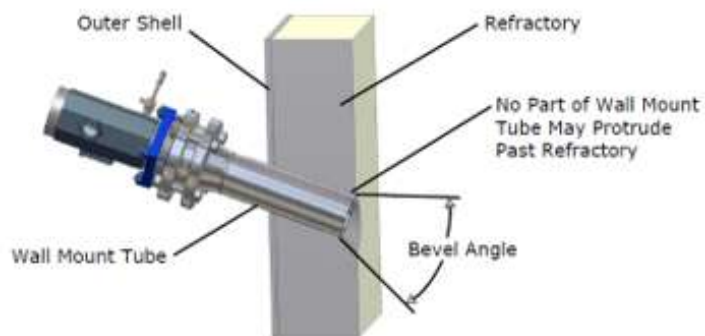
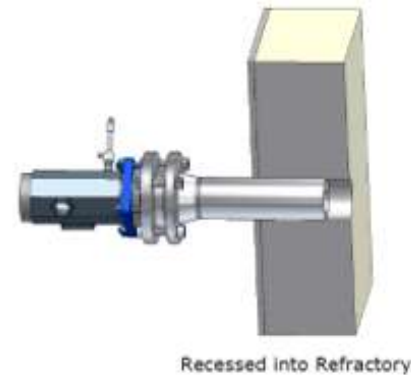
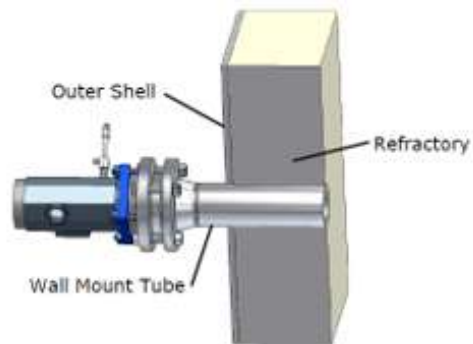


## II. Solutions for Measurement & Automation Applications

### 9. CANTY High Temperature Camera Systems



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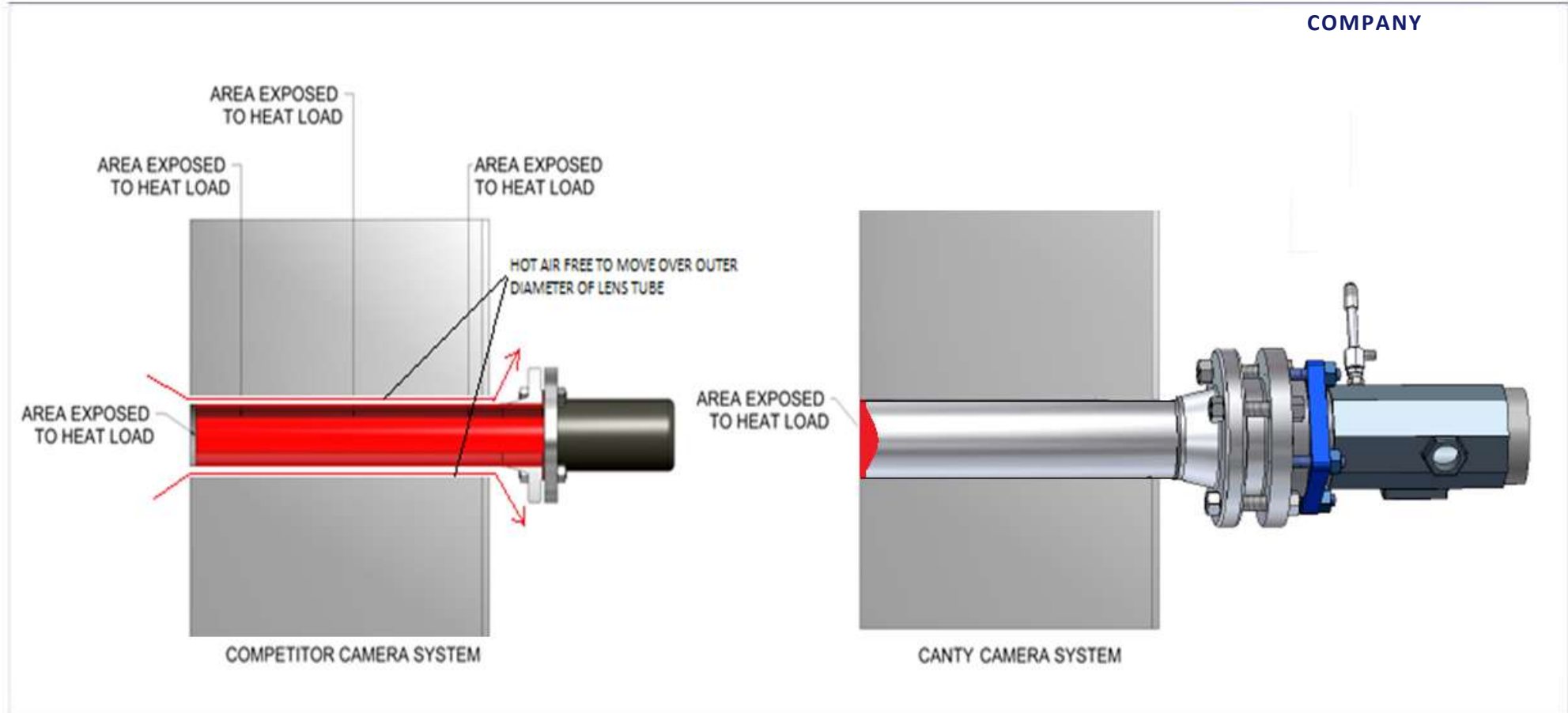


## II. Solutions for Measurement & Automation Applications

### 9. CANTY High Temperature Camera Systems



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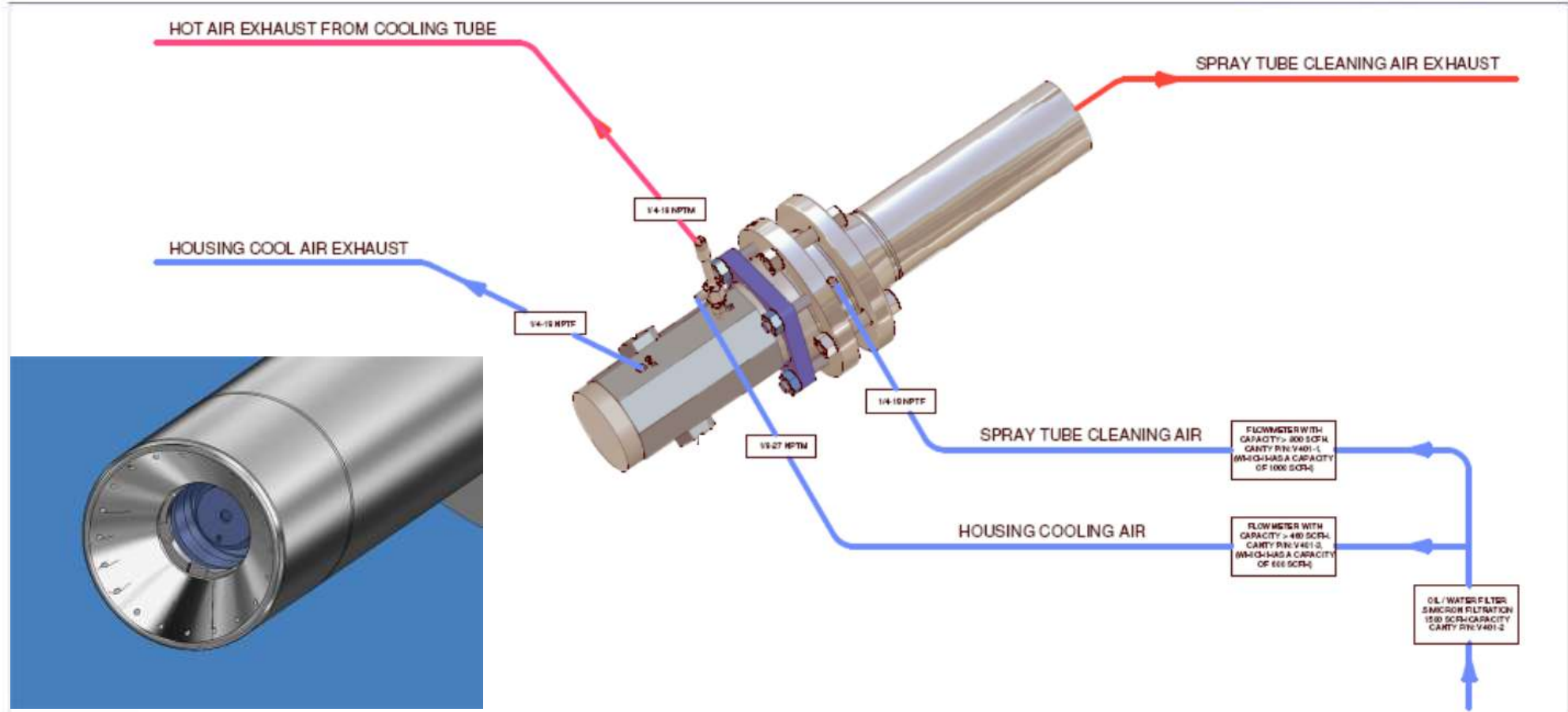


## II. Solutions for Measurement & Automation Applications

### 9. CANTY High Temperature Camera Cleaning / Cooling Air Layout



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## II. Solutions for Measurement & Automation Applications

### 9. CANTY High Temperature Camera Systems



HUYNH BANG



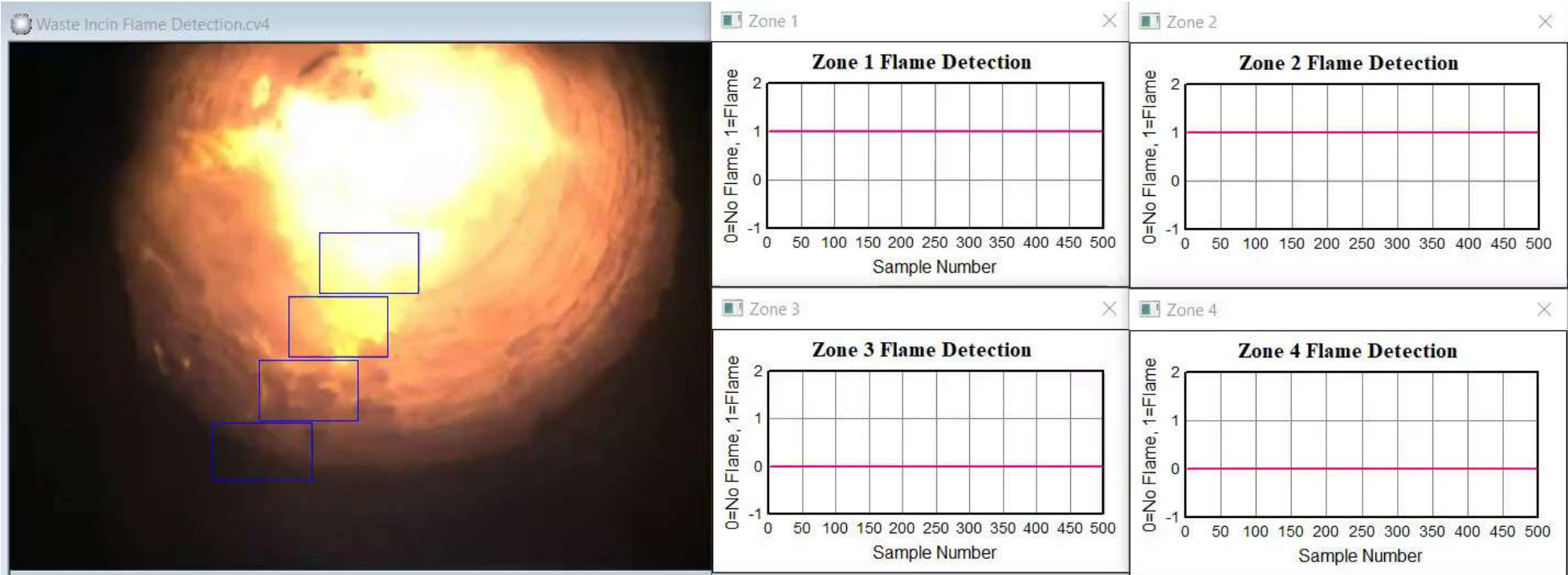
# II. Solutions for Measurement & Automation Applications

## 9. CANTY High Temperature Camera Flame Detection



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Video - flame detection in waste incinerator



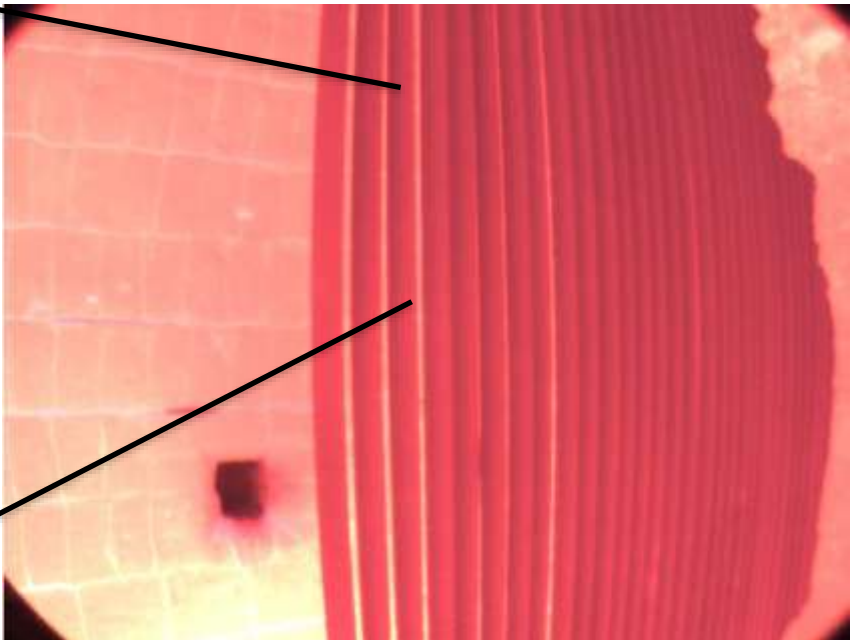
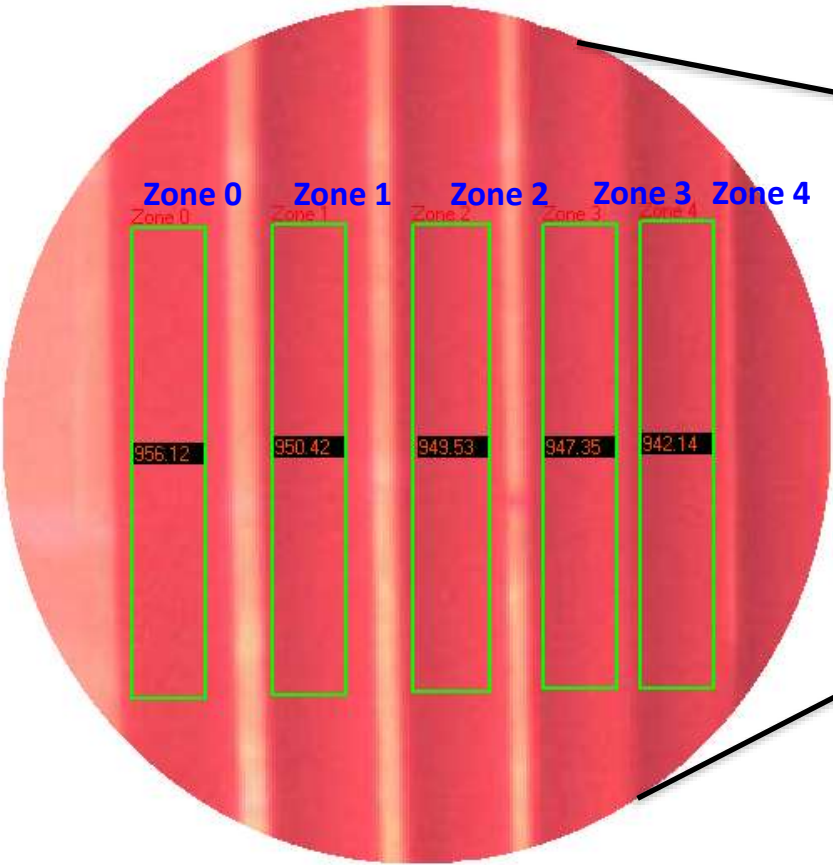


# II. Solutions for Measurement & Automation Applications

## 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

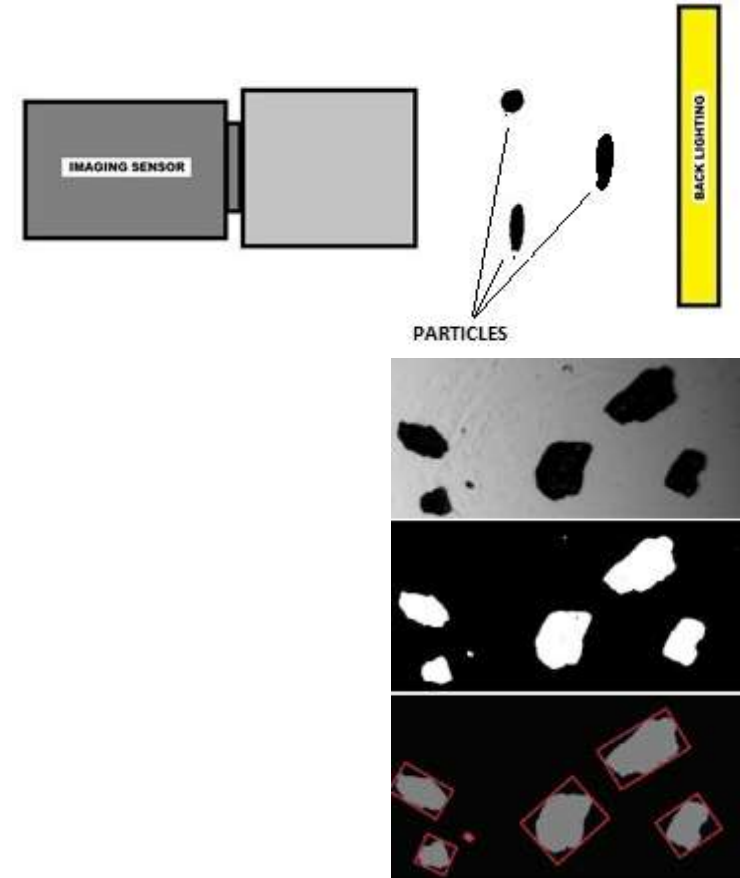


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JM Canty's vision based technique works on the basic principle of presenting the product between micro / macroscopic optics and a high intensity light source (back lighting)

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....

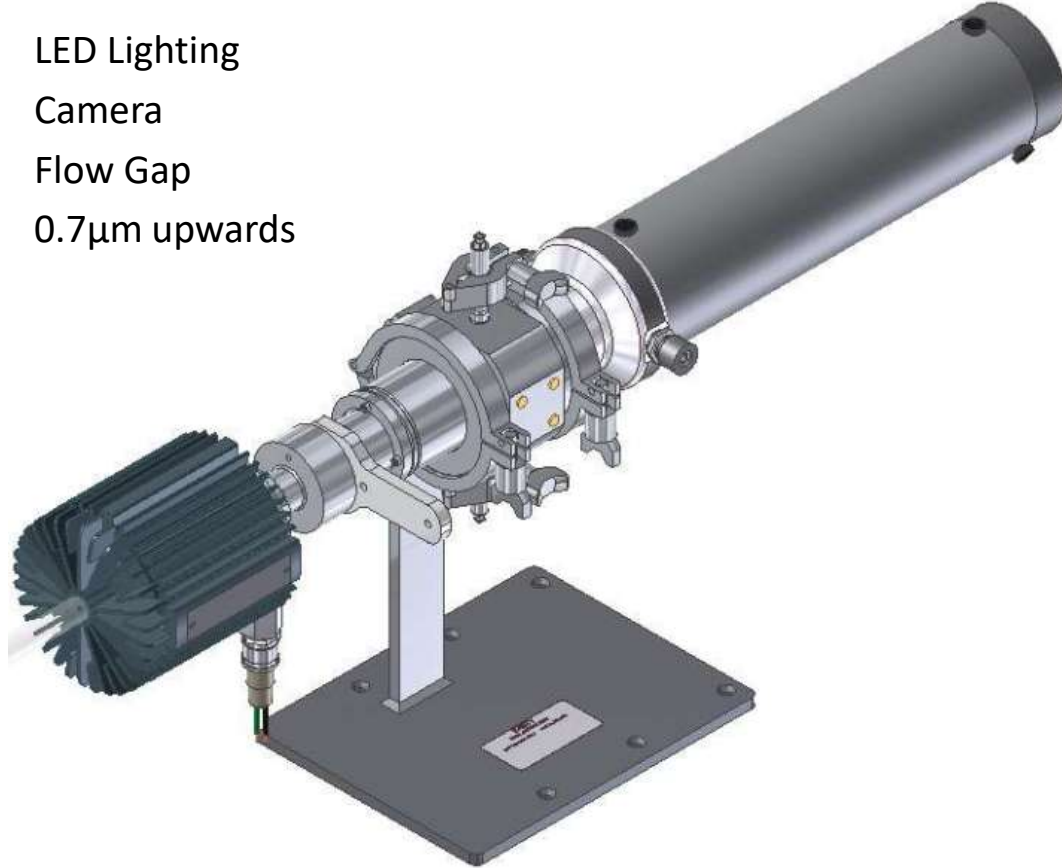
Systems available for Liquids Slurries and Dry Solids



## II. Solutions for Measurement & Automation Applications

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

- LED Lighting
- Camera
- Flow Gap
- 0.7 $\mu$ m 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

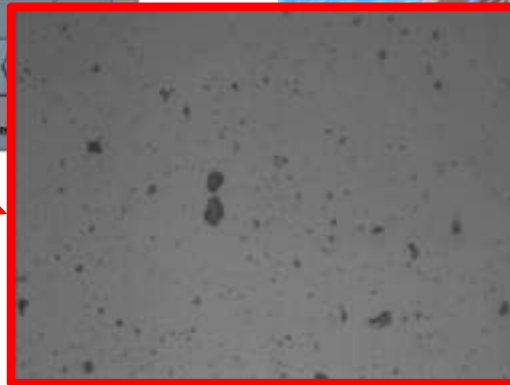
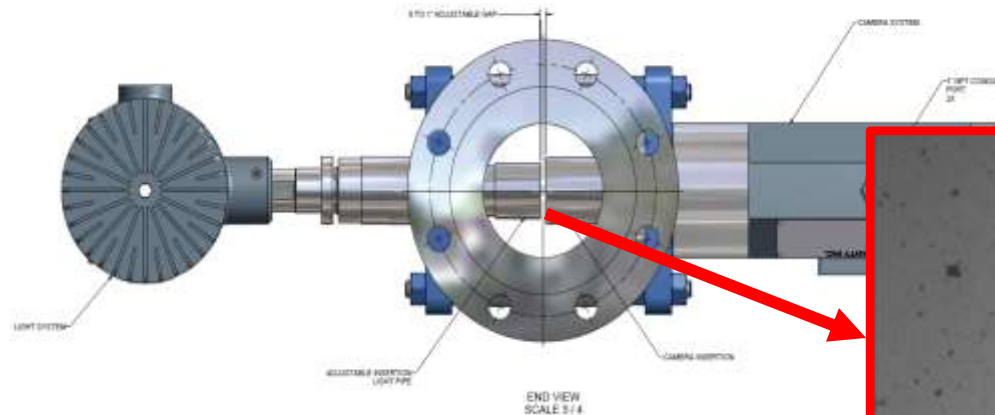


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Inflow Inline System - Mounts directly in pipeline as a spool piece and fluids flows through it

- LED Lighting
- Camera
- Flow Gap
- 0.7 $\mu$ 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

### 9. CANTY Solid Sizer LAB



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Video –Solid sizer in LAB



# II. Solutions for Measurement & Automation Applications

## 9. CANTY Particle Sizing Systems



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# II. Solutions for Measurement & Automation Applications

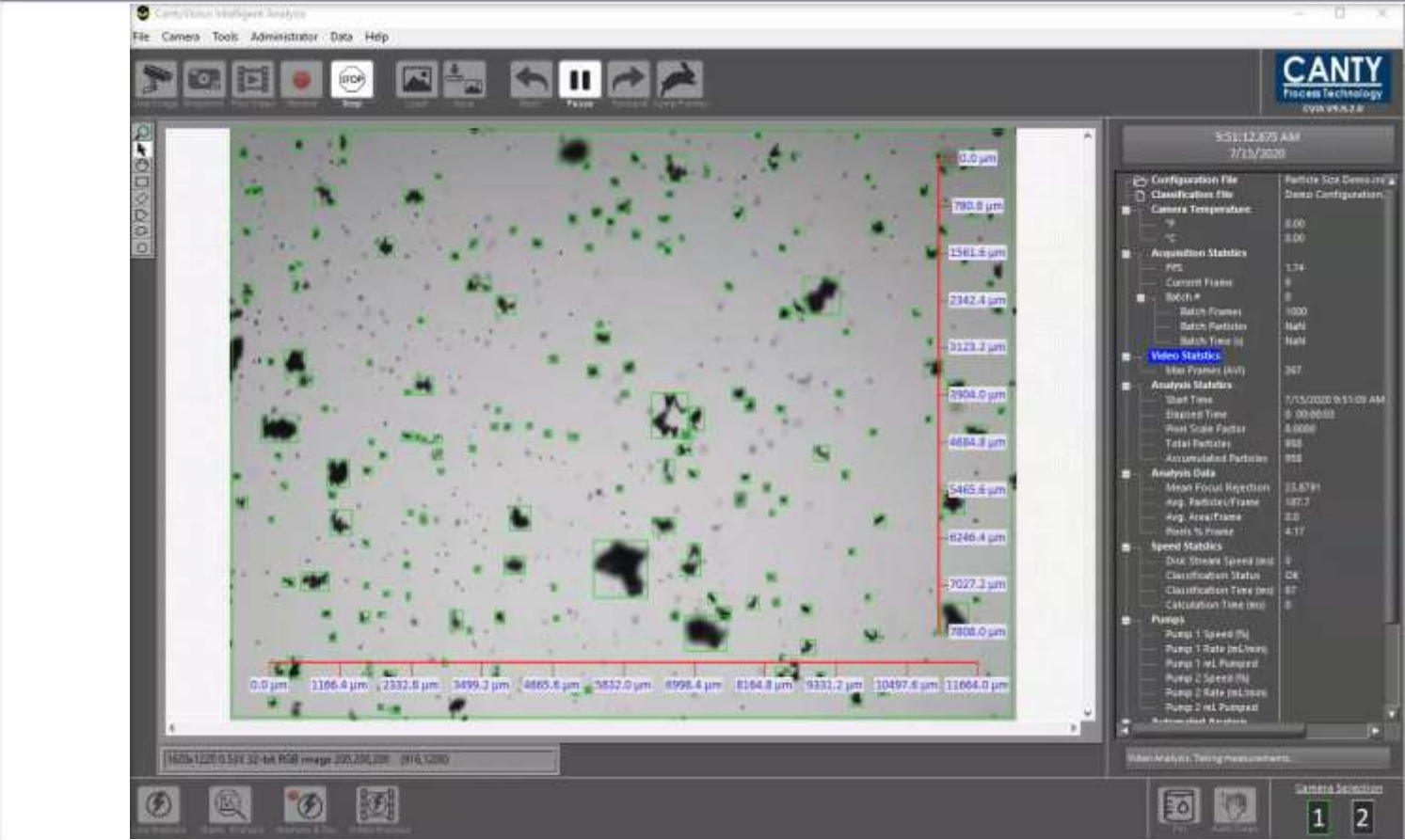
## 9. CANTY Particle Sizing Systems



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Video –  
Particle Sizing Systems  
on CANTY Vision software

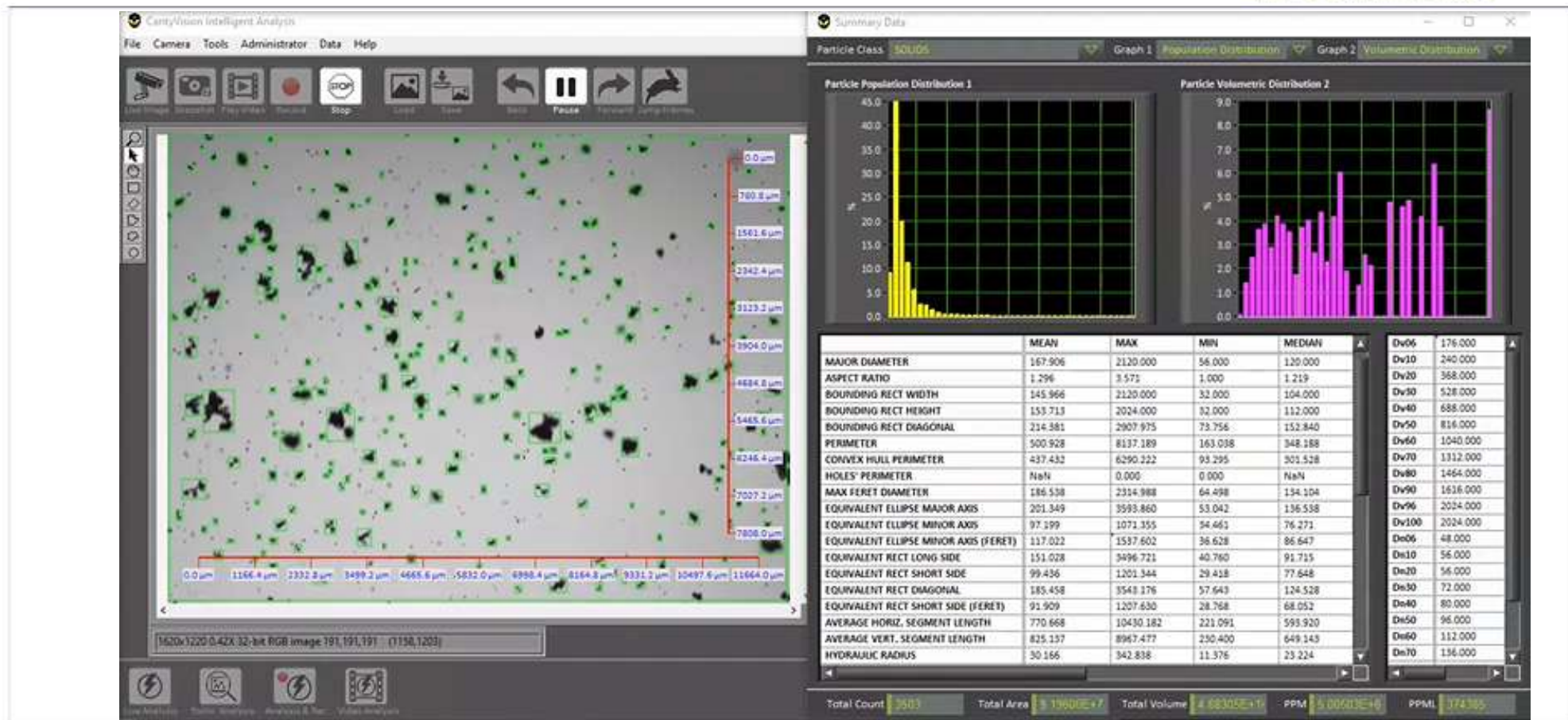


## II. Solutions for Measurement & Automation Applications

### 9. CANTY Particle Sizing Systems



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# 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**

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

## IV. Conclusion

Huynh Bang is a reliable and competent Partner.



### Huynh Bang is your partner for a Market Entry in Vietnam:

- Product knowledge in the areas of Industrial Heat, Measurement and Automation
- Market knowledge for industrial Equipment for more than 21 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.



## HUYNH BANG

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eMail us:

[info@huynhbang.com](mailto:info@huynhbang.com)



## HUYNH BANG

### INDUSTRIAL HEAT

– weishaupt –

ecom<sup>®</sup>

hp



**BOSCH**

**CAW**  
Central Air Conditioning and Heat Pumps

### MEASUREMENT & AUTOMATION

**VEGA**

**JUMO**

**optris**  
Industrial Laser Measurement Technology

**KEM**  
Karlensdorf Engineering Materials - Germany

**meister**

**AMFE**  
Automatic Measurement Technology

**vögtlin**  
instruments

**SCHMIDT**  
Technology

**CANTY**  
PROCESS TECHNOLOGY

**VAISALA**

### LUBRICANTS

**OBERON**  
LUBRICANTS