

Huynh Bang Company Corporate Presentation

Ho Chi Minh City, Vietnam
August 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

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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 m²

18

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		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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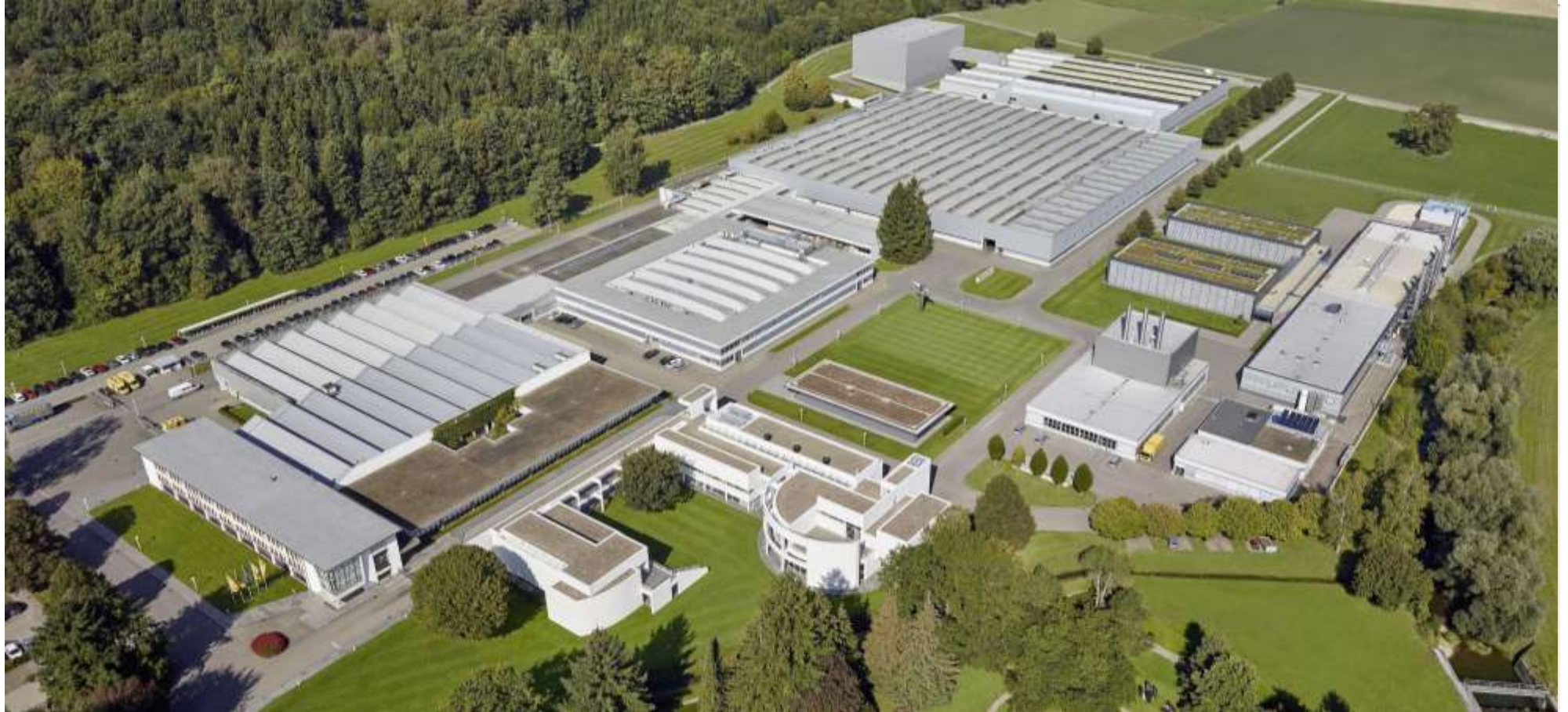


II. Solutions for Industrial Heat Applications

1. Weishaupt Headquarters in Schwendi, Germany



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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

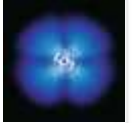
- Extended turndown range **ZMI** – Gas burner
- Extremely low NOx values **PLN – ULN**
4.5 kW – 11.000 kW
- Excellent serviceability
- Long life



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

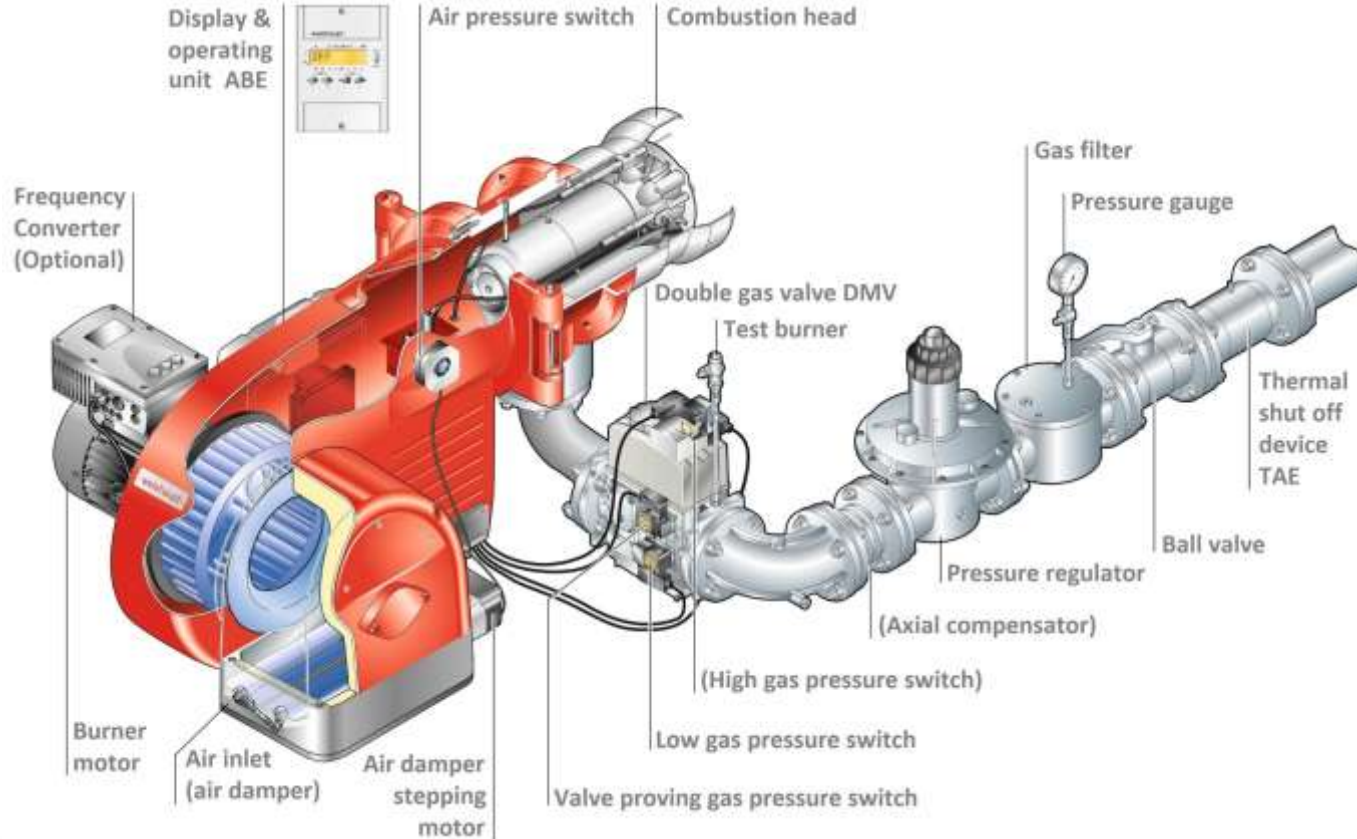
1. Weishaupt Gas Burner Monarch® WM-G10/20/30/50



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WM-G30 with flanged gas valve train DMV



[WM – gas burner](#)
[CAD portal](#)

II. Solutions for Industrial Heat Applications

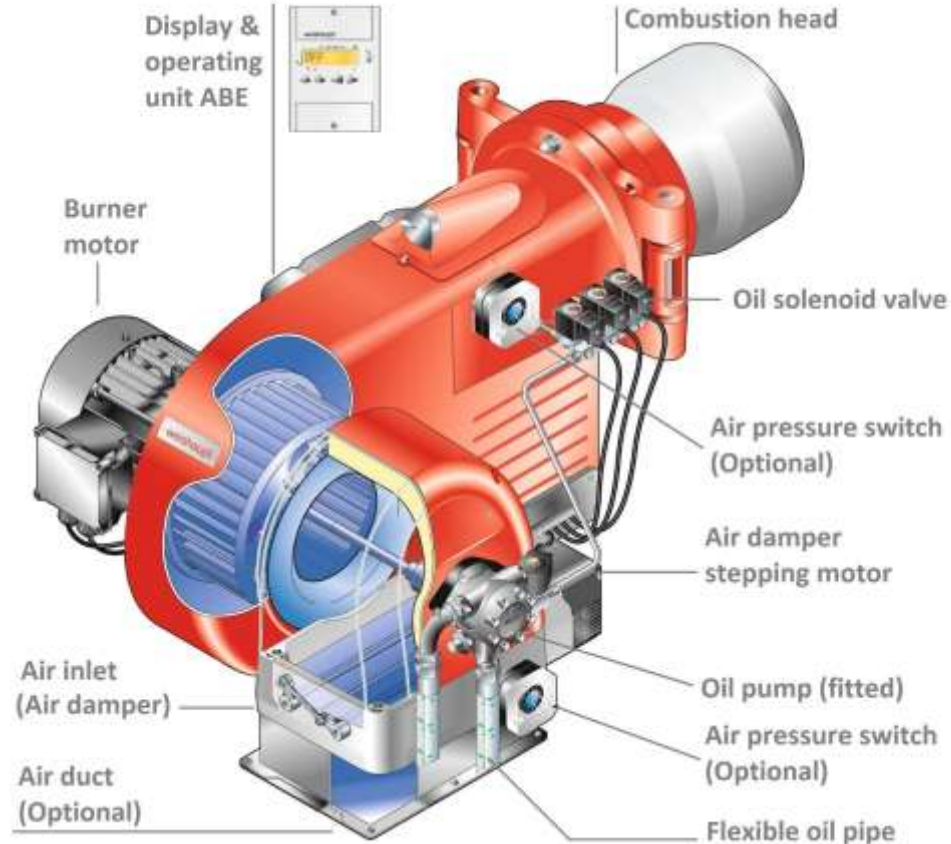
1. Weishaupt Oil Burner Monarch® WM-L10/20/30/50



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WM-L30 – Oil operation with components visible externally



[WM – oil burner
CAD portal](#)

II. Solutions for Industrial Heat Applications

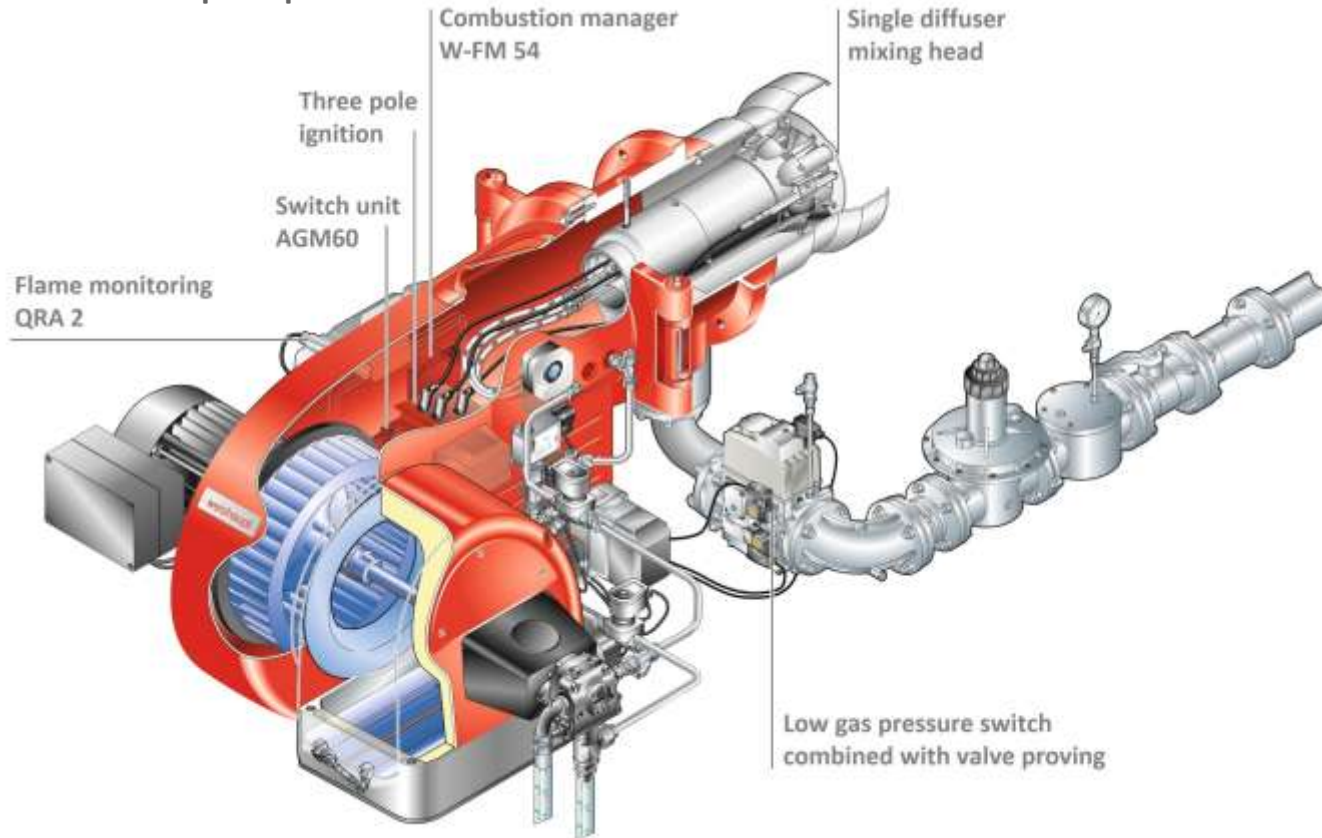
1. Weishaupt Dual Fuel Burner Monarch® WM-GL10/20/30/50



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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



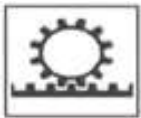
Waste recycling

- 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



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

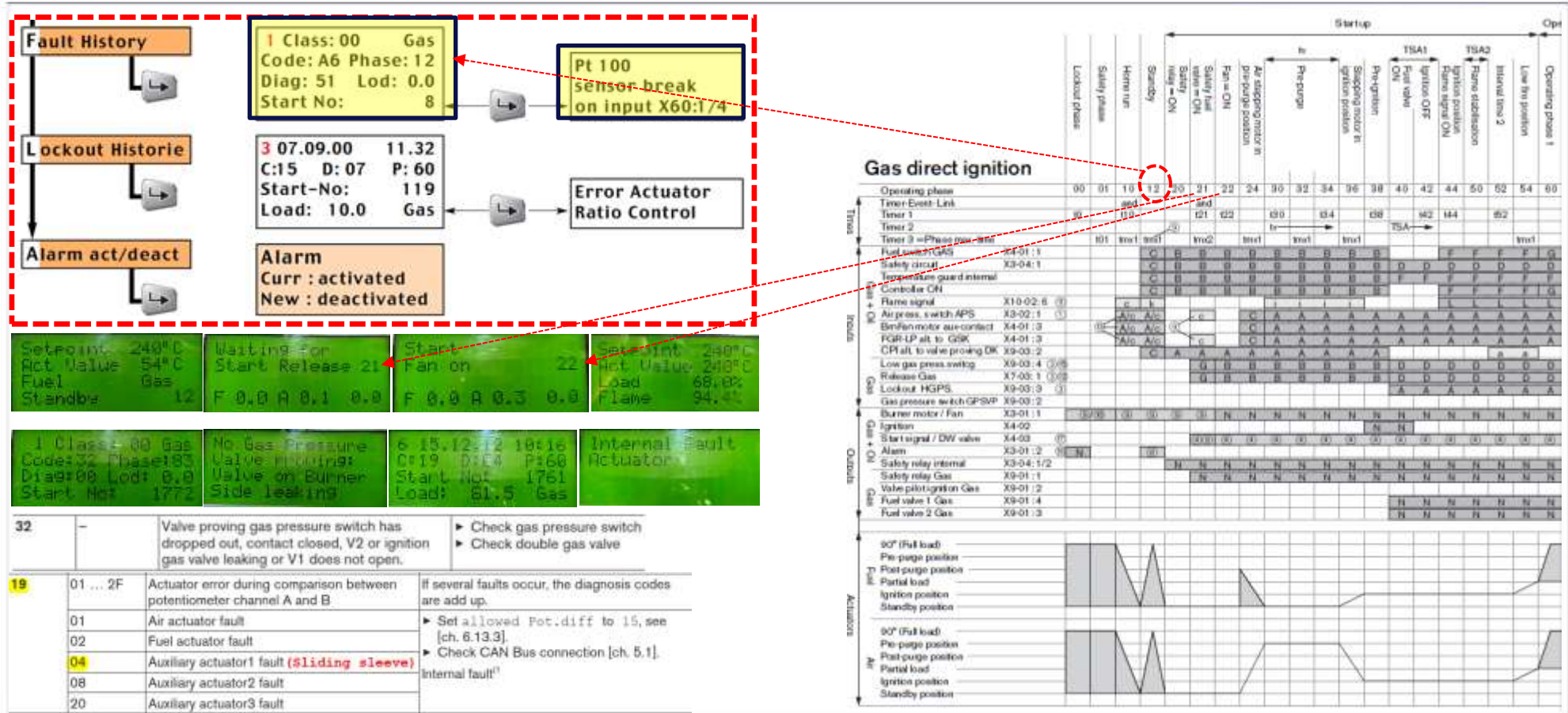


II. Solutions for Industrial Heat Applications

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



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II. Solutions for Industrial Heat Applications

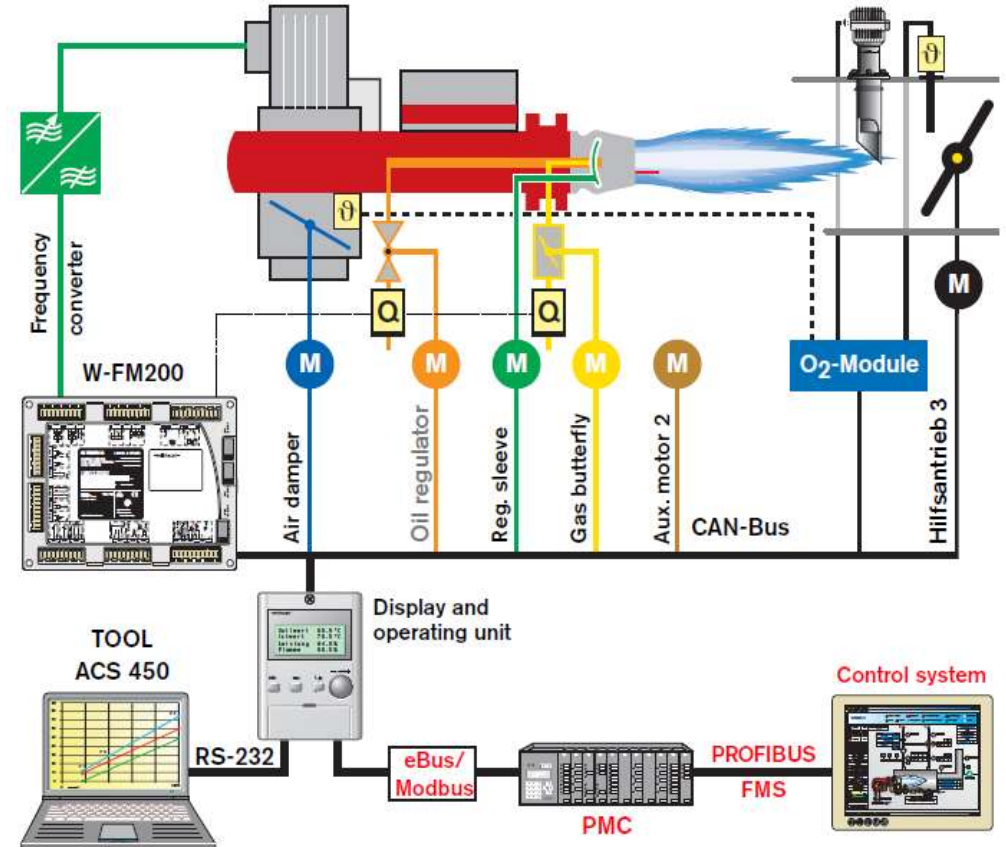
1. Weishaupt with Digital Combustion Management W-FM



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From basic to high-end Applications:

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

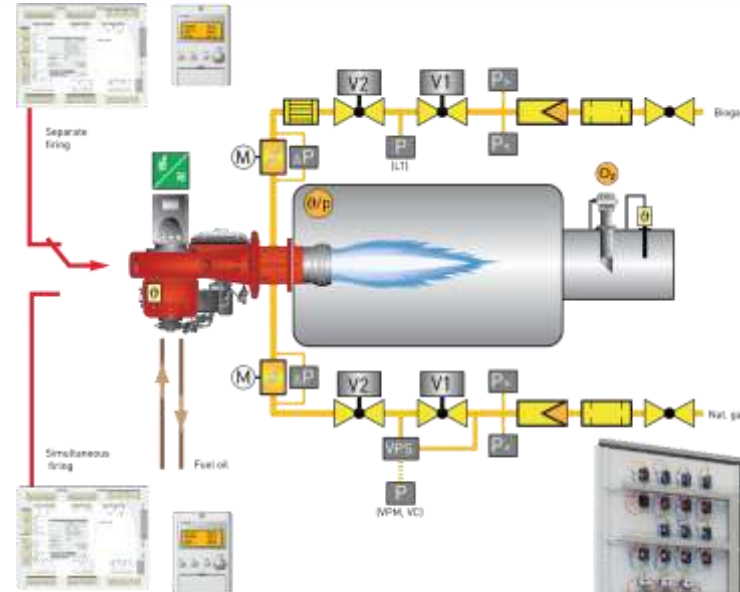


II. Solutions for Industrial Heat Applications

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:

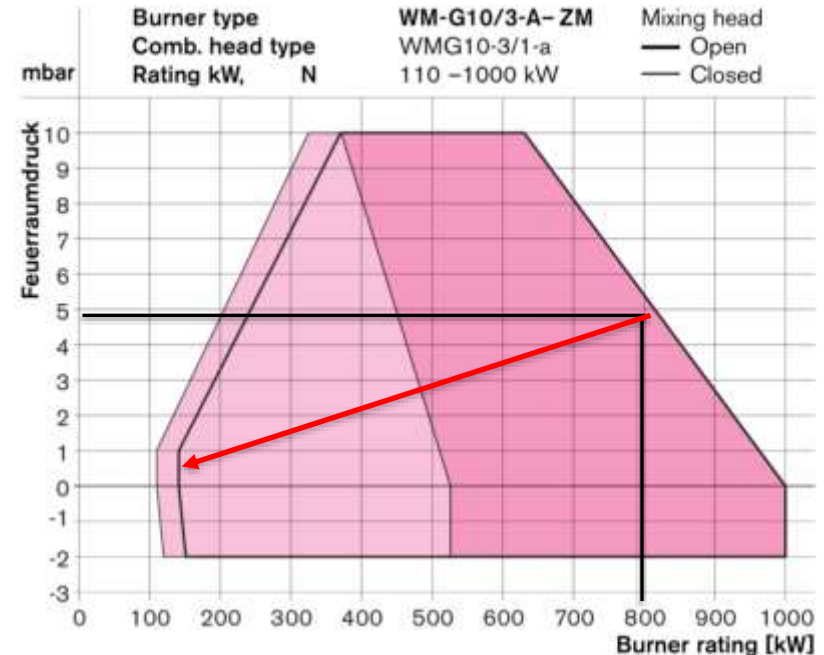
-  Burner turndown is important for fuel savings especially during mid- and low-load conditions.
-  Weishaupt gas burners have a turndown ratio of up to **1:10**. In practice, still many burners operate at 1:3 turndown.
-  Frequent boiler cycling also introduces thermal shock to the boiler tubes and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

Name plate

-weishaupt-	
Max Weishaupt GmbH D-89075 Schwend, Germany www.weishaupt.de	
CE 0085 CE-0085 DC 0027	
Burner type	WM-G10/3-A - industrial
Version	ZM Deutschland country DE
Serial No.	9275019 Cat. 5/05/98
Year of manufacture	2009 Type of gas N
Rating	min. 110 kW max. 1000 kW
Connection press. min.	15 mbar 500 mbar
Fuel oil	min. max. kg/h
WGs-CI 5	Protection IP 54
Control voltage	230 V, 1~ 50Hz 10 A gL
Main voltage	400 V, 3~ 50 Hz 30 Hz
Elect. retrofit	1.0 kW - 1000 kW
Made in Germany	



Capacity graph WM-G10/3 version ZM



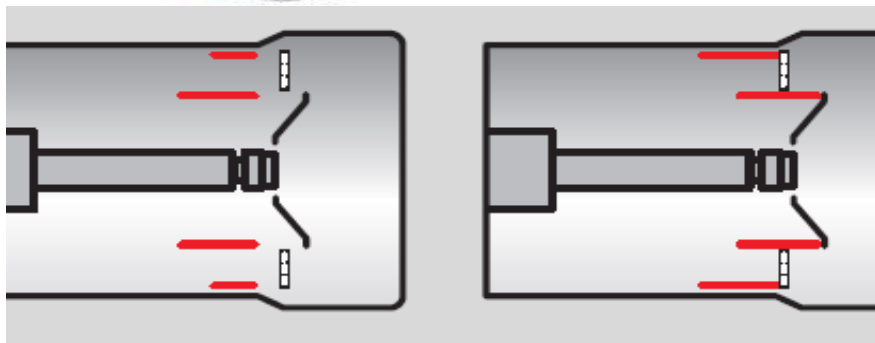
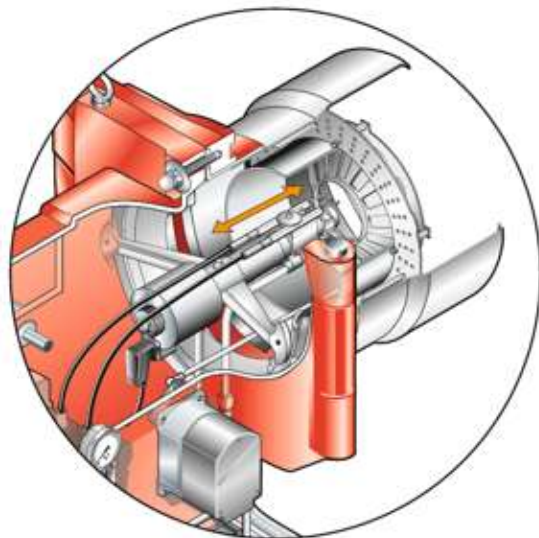
WM-G10/3 version ZM with turndown ratio of **1:8**
Possible min capacity of almost **100 kW** at max capacity of **800 kW**

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

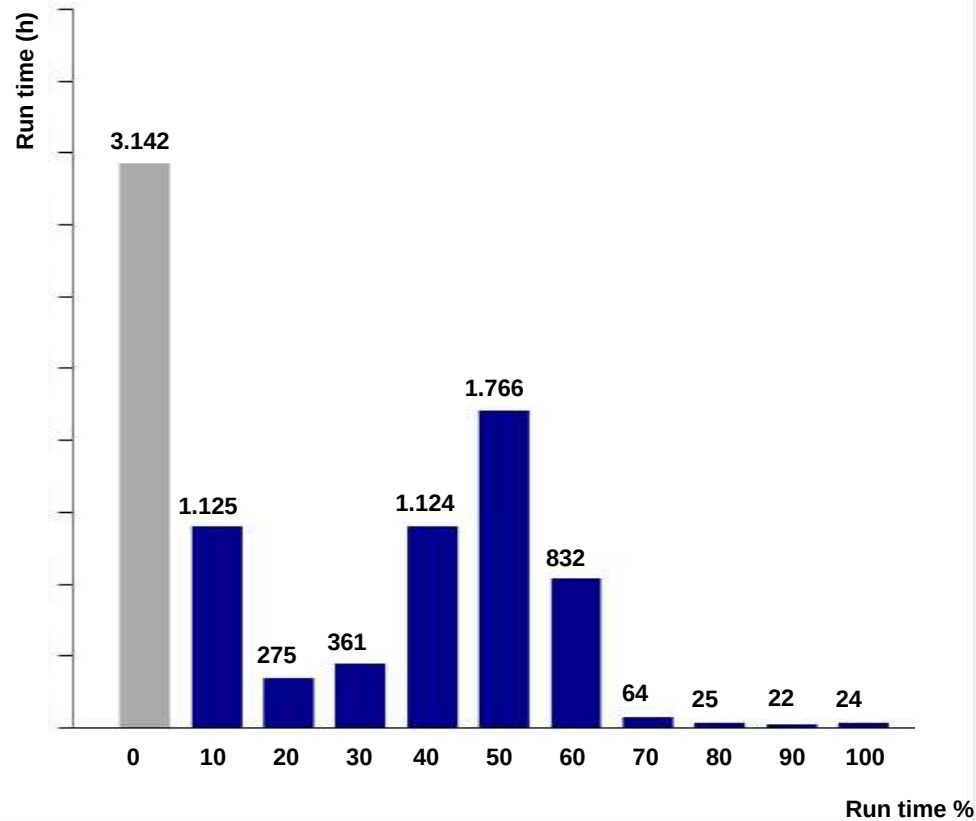


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Installation data

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

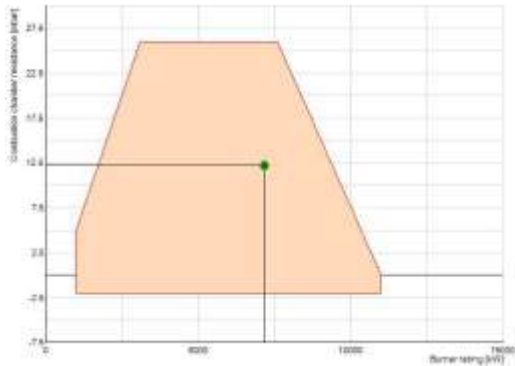


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1. Weishaupt Efficiency Calculator

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 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

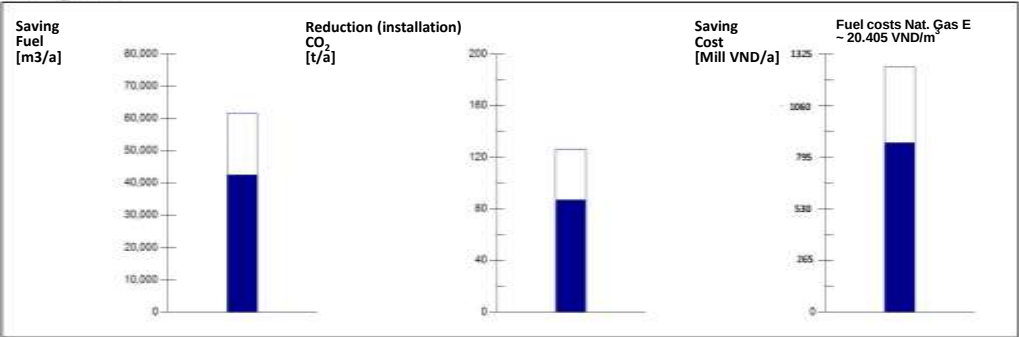


Saving

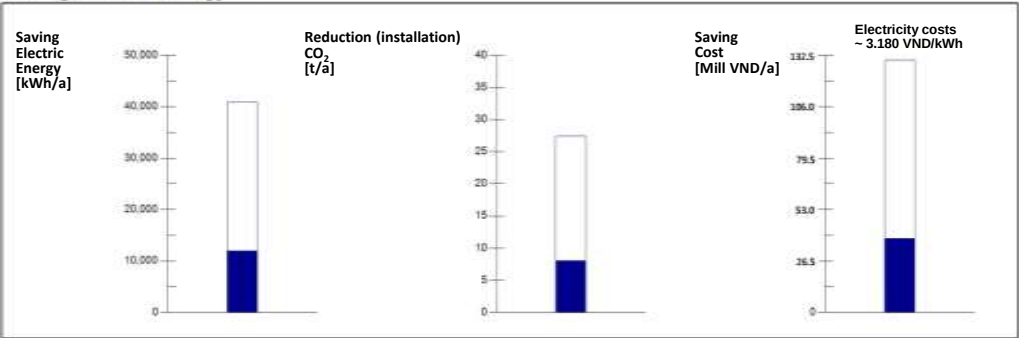
Burner equipment
Speed control
O₂ trim

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

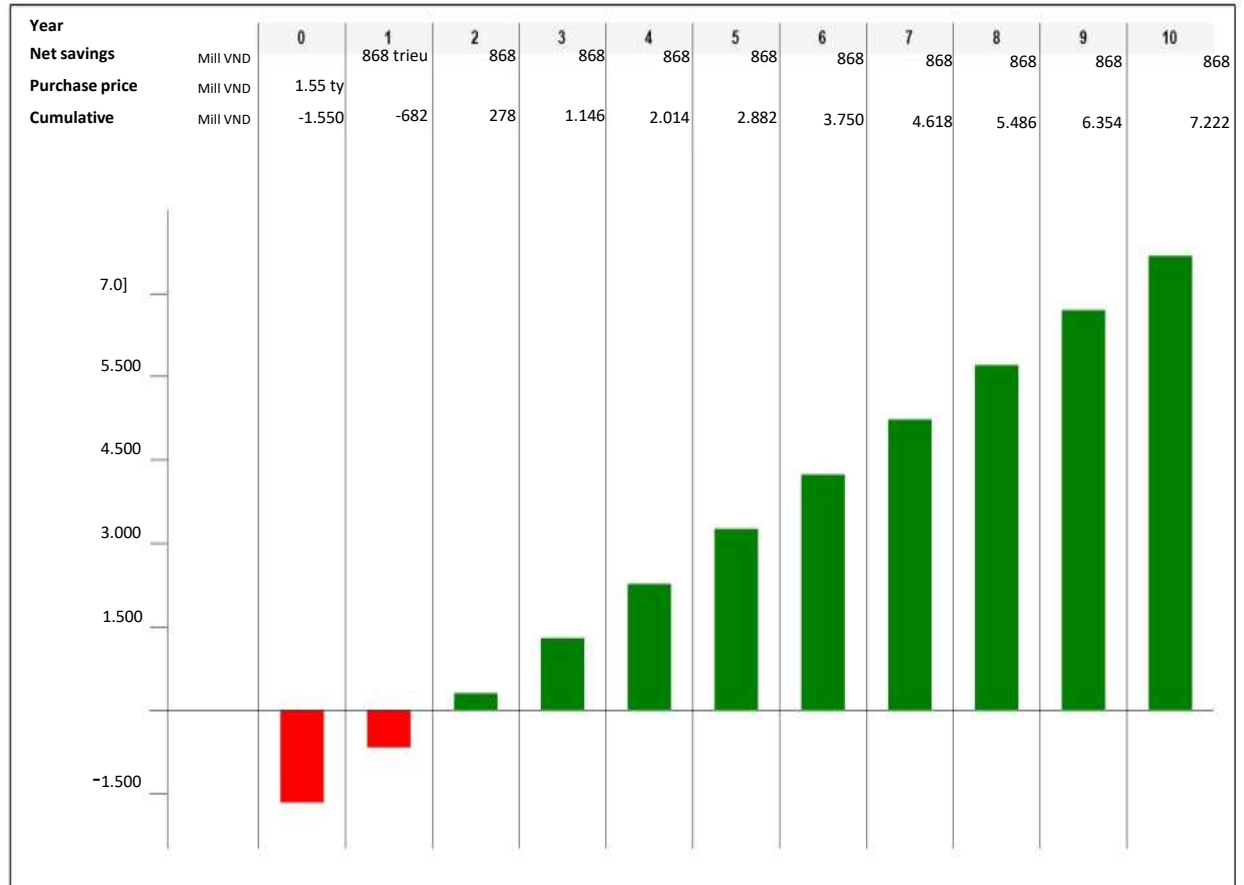
Costs burner	~ 1.100	Mill VND
Costs accessories	~ 400	Mill VND
Costs service	~ 40	Mill VND
Calculation period	10	Years

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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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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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



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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

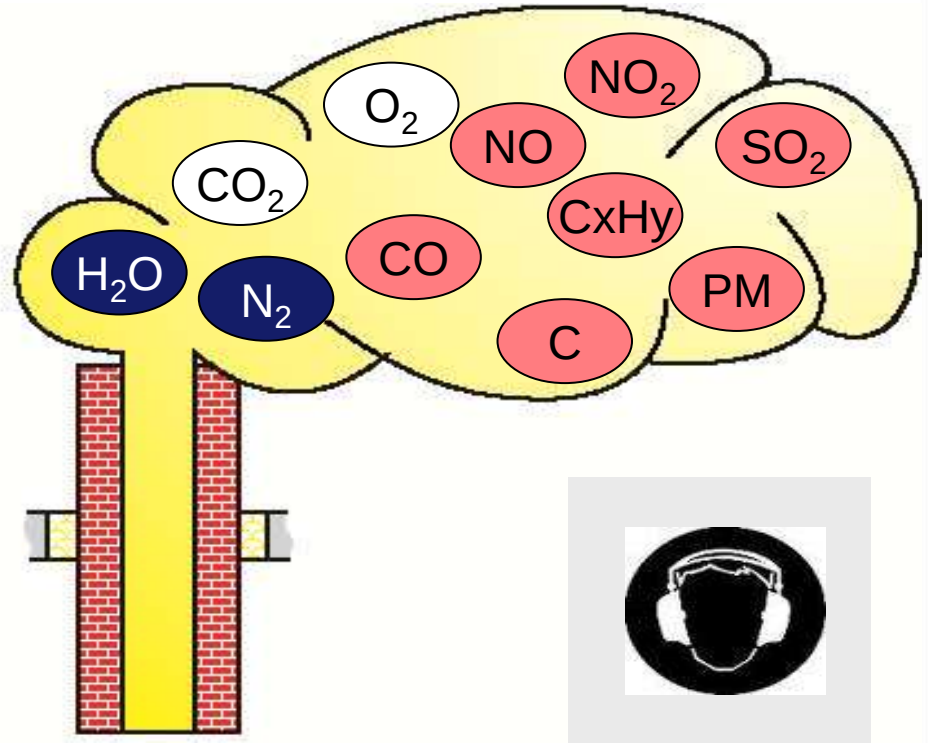
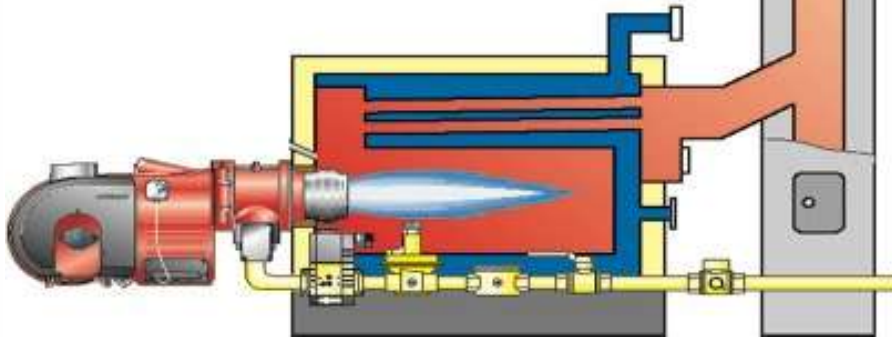
1. Overview Emissions

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

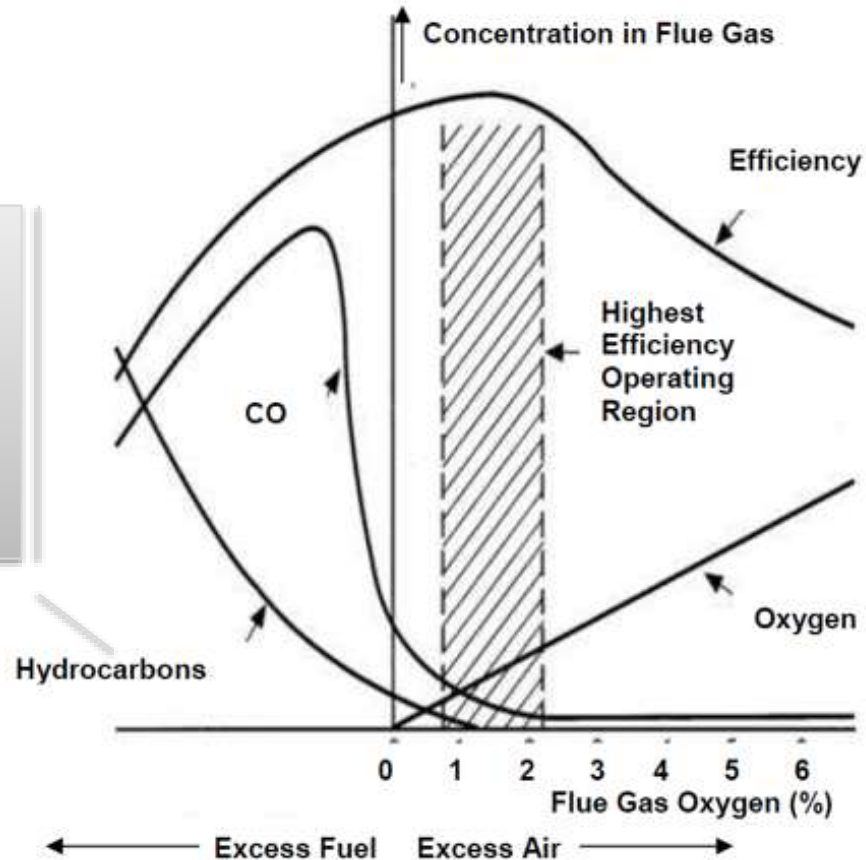


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Unburned fuel (carbon monoxide, hydrocarbon, etc.) and higher than required excess air levels result

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



Higher excess air means lower combustion efficiency.

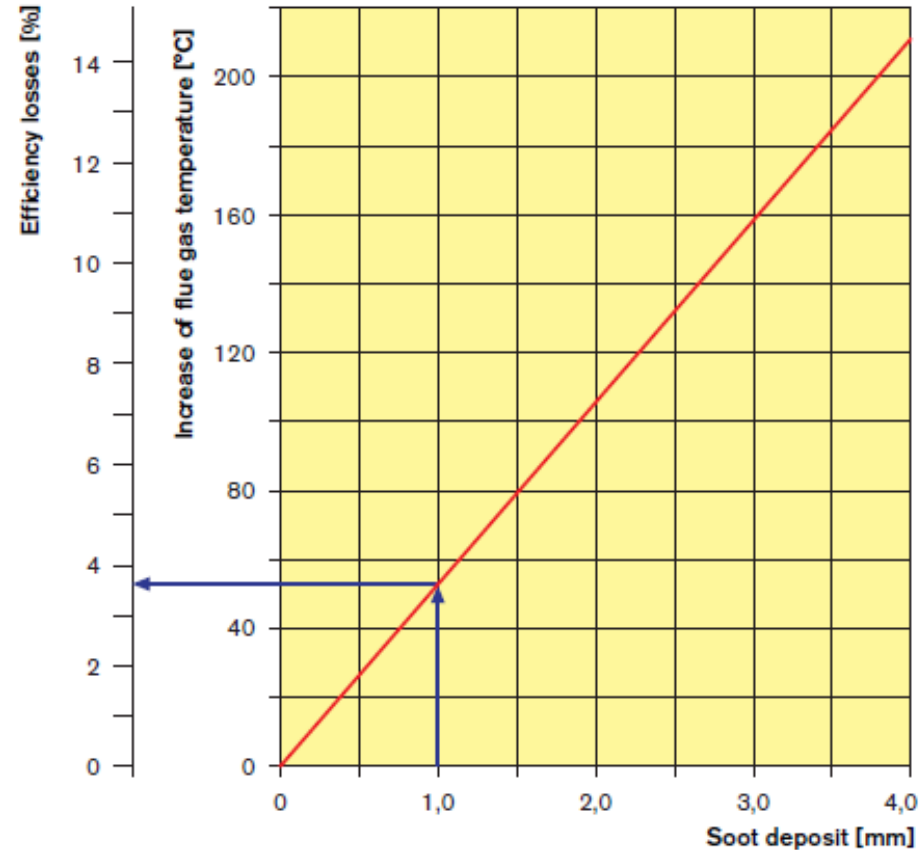
II. Solutions for Industrial Heat Applications

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



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II. Solutions for Industrial Heat Applications

2. ecom[®] 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/m³
- 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



HUYNH BANG



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	

II. Solutions for Industrial Heat Applications

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



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***** * ECOM - EN2 * ***** Date: 28.05.16 Time: 11:37:18 Gas analysis Fuel type: Natural Gas 1 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 Huynh Bang Company Ltd. Room 505 Fideco Building 14 Thao Dien District 2 HCM City Viet Nam Tel: +84837449002 Fax: +84837449004 Email: info@huynhbang.com Web: www.huynhbang.com	***** * ECOM - EN2 * ***** Date: 28.05.16 Time: 11:42:09 Gas analysis Fuel type: Natural Gas 2 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 % Exo air: 1.22 Dew Poi: 55 °C Huynh Bang Company Ltd. Room 505 Fideco Building 14 Thao Dien District 2 HCM City Viet Nam Tel: +84837449002 Fax: +84837449004 Email: info@huynhbang.com Web: www.huynhbang.com	***** * ECOM - EN2 * ***** Date: 28.05.16 Time: 11:42:04 Gas analysis Fuel type: Natural Gas 3 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 Huynh Bang Company Ltd. Room 505 Fideco Building 14 Thao Dien District 2 HCM City Viet Nam Tel: +84837449002 Fax: +84837449004 Email: info@huynhbang.com Web: www.huynhbang.com	***** * ECOM - EN2 * ***** Date: 28.05.16 Time: 11:43:00 Gas analysis Fuel type: Natural Gas 4 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 Huynh Bang Company Ltd. Room 505 Fideco Building 14 Thao Dien District 2 HCM City Viet Nam Tel: +84837449002 Fax: +84837449004 Email: info@huynhbang.com Web: www.huynhbang.com
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Flue gas analyzer display in operation

***** * ECOM - EN2 * ***** Date: 28.05.16 Time: 11:44:28 Gas analysis Fuel type: Natural Gas 5 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 Huynh Bang Company Ltd. Room 505 Fideco Building 14 Thao Dien District 2 HCM City Viet Nam Tel: +84837449002 Fax: +84837449004 Email: info@huynhbang.com Web: www.huynhbang.com	***** * ECOM - EN2 * ***** Date: 28.05.16 Time: 11:45:05 Gas analysis Fuel type: Natural Gas 6 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 Huynh Bang Company Ltd. Room 505 Fideco Building 14 Thao Dien District 2 HCM City Viet Nam Tel: +84837449002 Fax: +84837449004 Email: info@huynhbang.com Web: www.huynhbang.com	***** * ECOM - EN2 * ***** Date: 28.05.16 Time: 11:45:47 Gas analysis Fuel type: Natural Gas 7 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 Huynh Bang Company Ltd. Room 505 Fideco Building 14 Thao Dien District 2 HCM City Viet Nam Tel: +84837449002 Fax: +84837449004 Email: info@huynhbang.com Web: www.huynhbang.com	***** * ECOM - EN2 * ***** Date: 28.05.16 Time: 11:46:50 Gas analysis Fuel type: Natural Gas 8 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 Huynh Bang Company Ltd. Room 505 Fideco Building 14 Thao Dien District 2 HCM City Viet Nam Tel: +84837449002 Fax: +84837449004 Email: info@huynhbang.com Web: www.huynhbang.com	***** * ECOM - EN2 * ***** Date: 28.05.16 Time: 11:51:11 Gas analysis Fuel type: Natural Gas 9 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: 14.2 % Exo air: 1.11 Dew Poi: 56 °C Huynh Bang Company Ltd. Room 505 Fideco Building 14 Thao Dien District 2 HCM City Viet Nam Tel: +84837449002 Fax: +84837449004 Email: info@huynhbang.com Web: www.huynhbang.com
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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



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

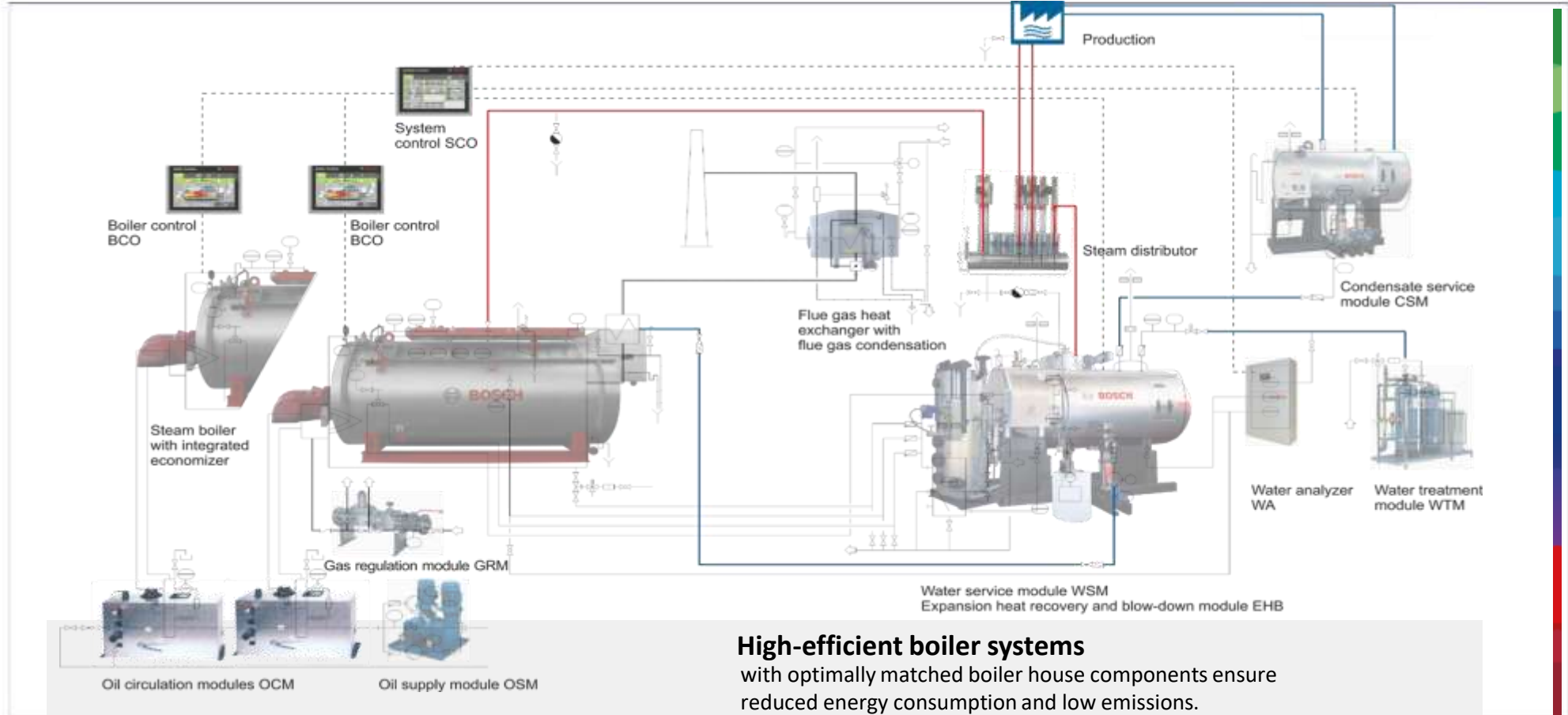
		Industrial boilers	Efficiency	Components	Controls																																				
Heating / Hot water		 UT-L  UT-M  UT-H  UT-HZ <table><tr><td>Output</td><td><1-25 MW</td><td><1-19 MW</td><td><1-18 MW</td><td>13-38 MW</td></tr><tr><td>T max.</td><td>120 °C</td><td>190 °C</td><td>225 °C</td><td>225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

3. Bosch high-efficient Boiler Systems



HUYNH BANG

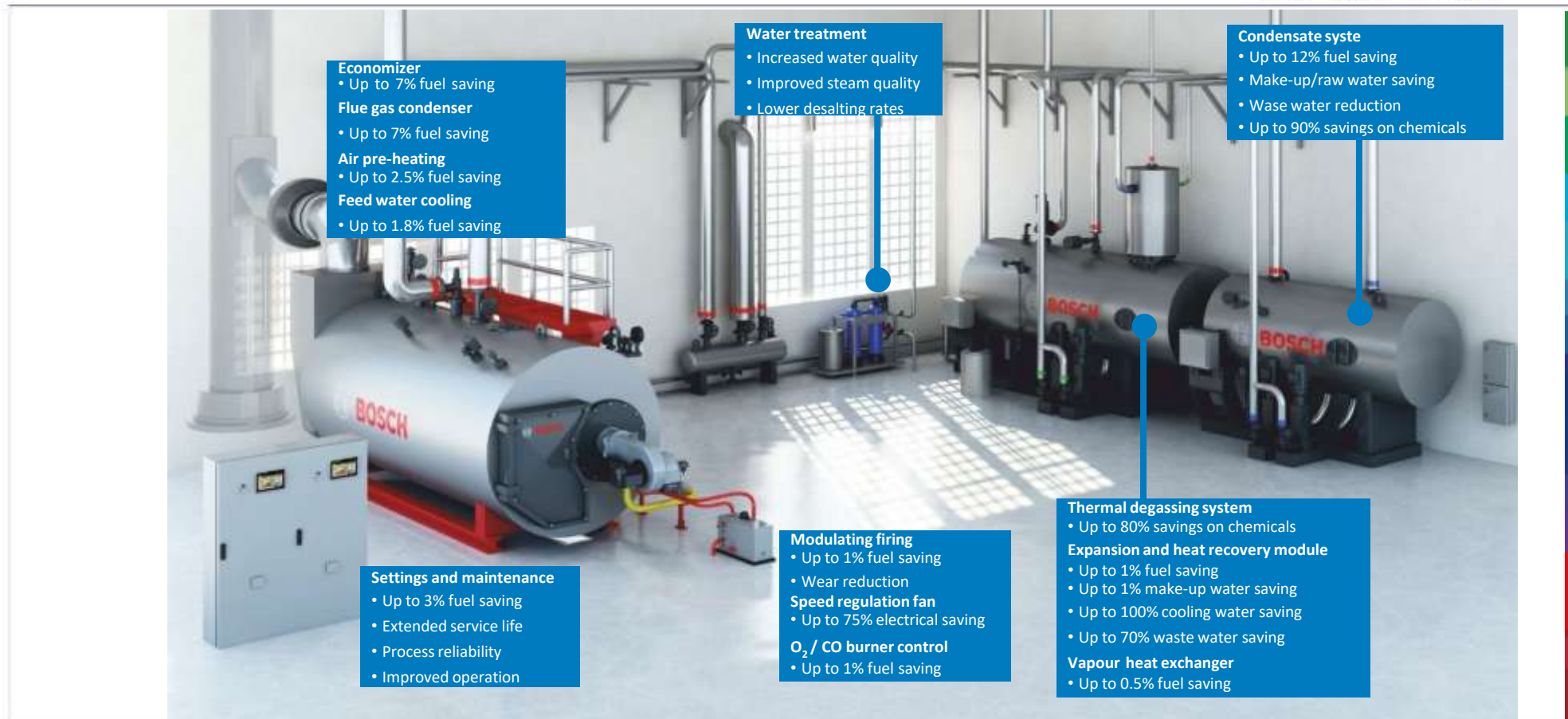


II. Solutions for Industrial Heat Applications

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

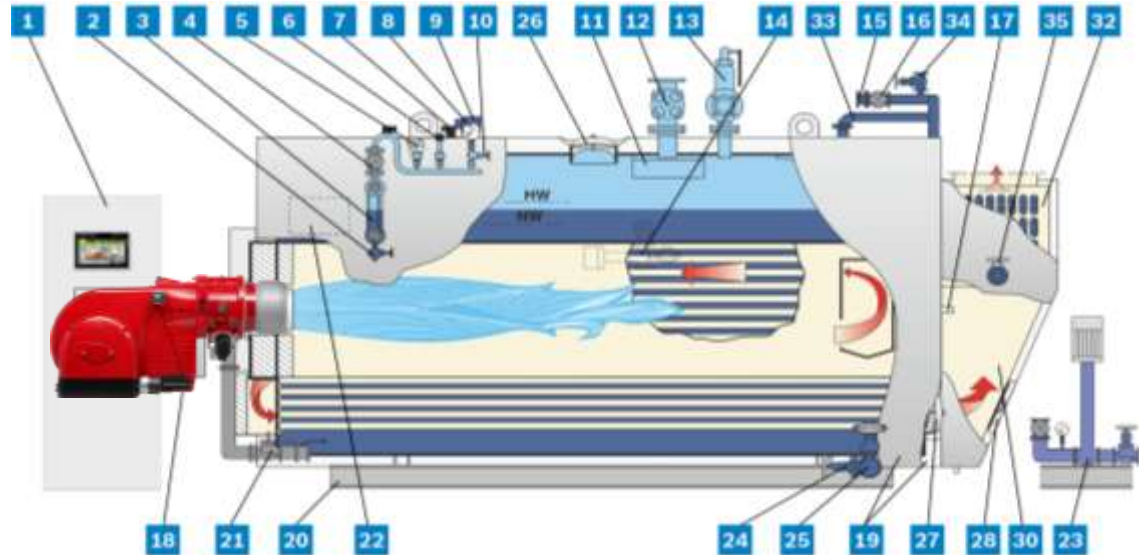
3. Bosch Steam Boiler equipment for UL-S



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



HUYNH BANG



THIS IS HOW IT
LOOKS AT **VEGA**



Headquarters in *Schiltach*,
Germany

1,150  Employees
in Schiltach

 60
Trainees

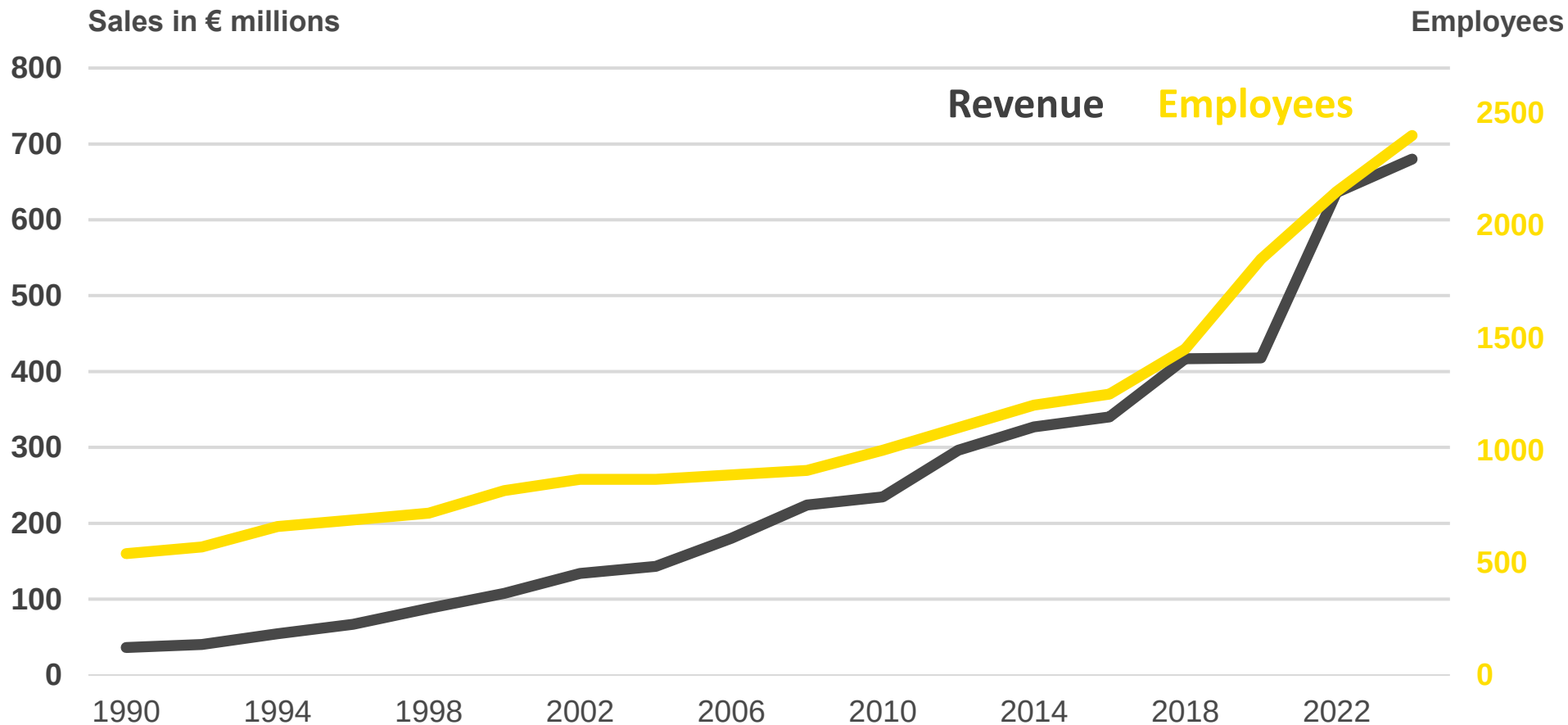
WORLDWIDE  2,400 EMPLOYEES

supfina

grieshaber
PRECISION

VEGA

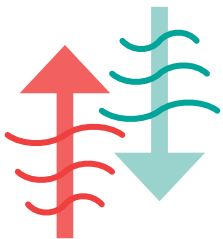
Focussed on long-term development



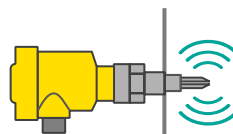


Product portfolio

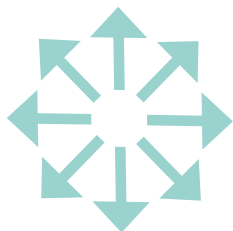
We produce measurement



Level measurement



Level detection

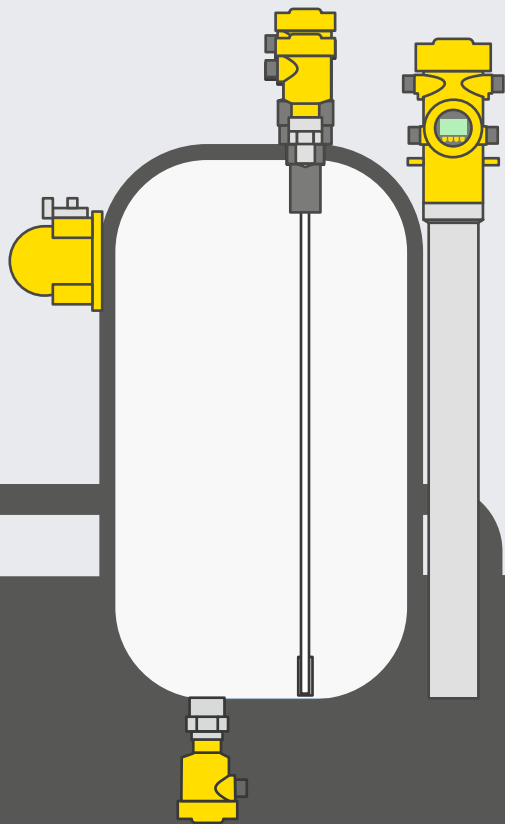


Pressure measurement



Control units & communication

Continuous level measurement



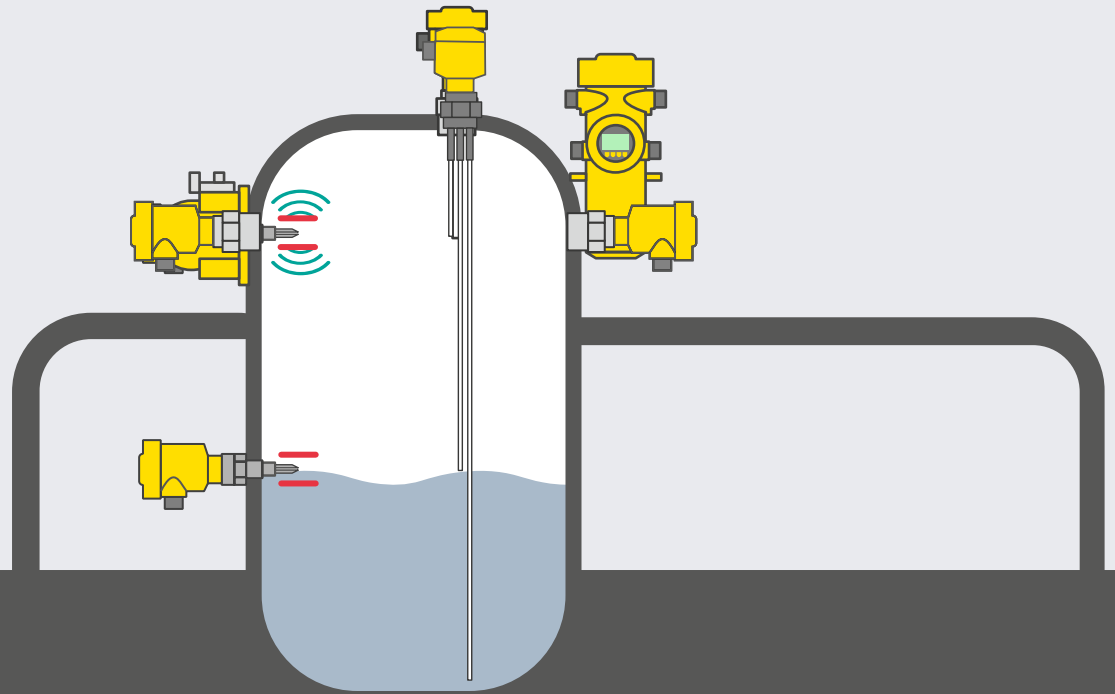
THE MEASUREMENT METHODS

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

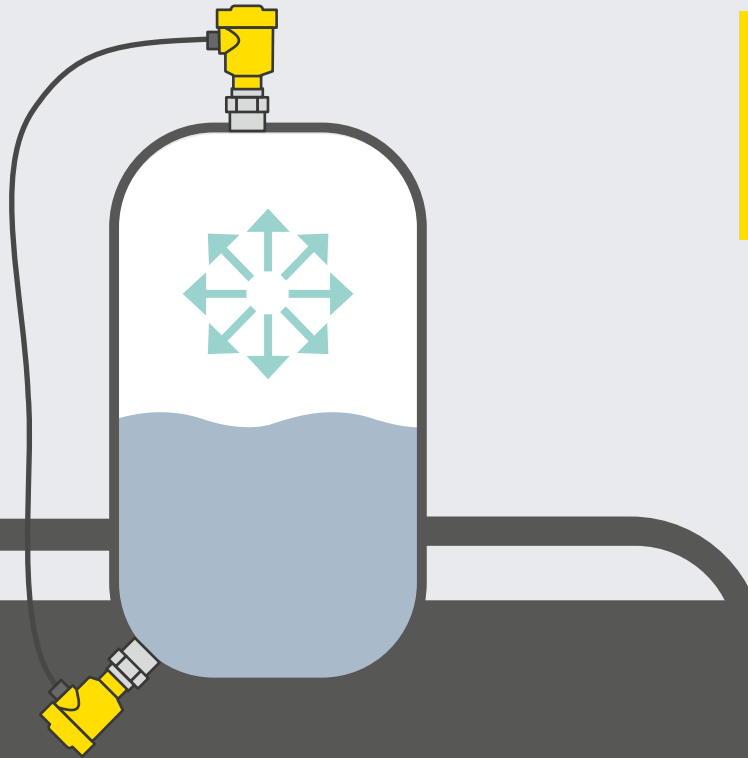
Safe level detection

THE MEASUREMENT METHODS

- Vibration
- Conductive
- Capacitive
- Radar
- Radiometric



Universal pressure measurement

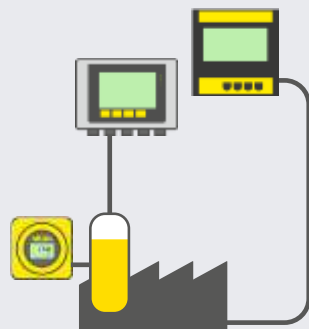


THE MEASUREMENT METHODS

- 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

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



HUYNH BANG



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



HUYNH BANG



Temperature



Liquid analysis



Pressure



Level



Flow



Humidity



II. Solutions for Measurement & Automation Applications

2. JUMO Automation Solutions



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Control



Recording



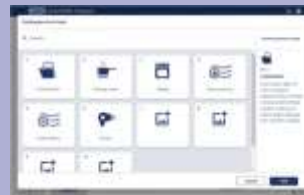
Automation



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



HUYNH BANG

COMPANY



II. Solutions for Measurement & Automation Applications

2. JUMO references



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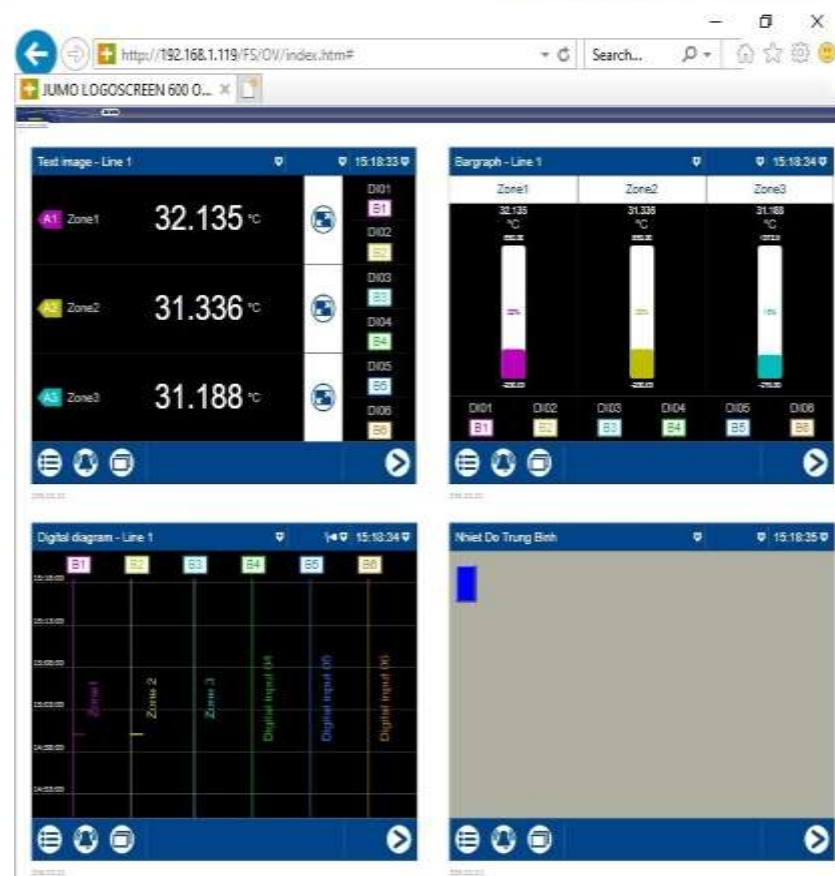


II. Solutions for Measurement & Automation Applications

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



Pyrometers



IR cameras



Accessoires



Software

Fields of application

WHEN TEMPERATURE MATTERS



- Metal
- Plastic
- Glass
- Electronics
- Food
- Pharmacy
- Safety
- ...
- Almost everywhere



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.



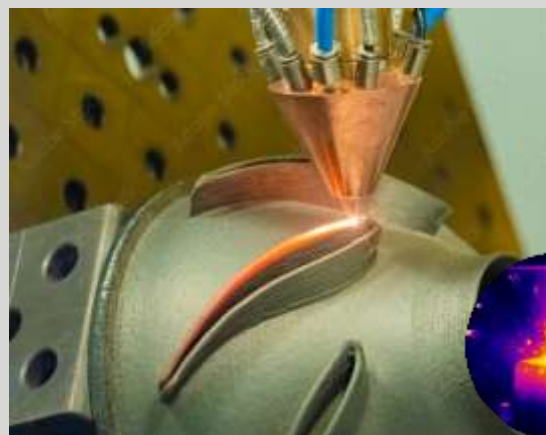
Plastics industry

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



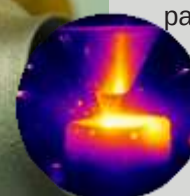
Medical/ biological science

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



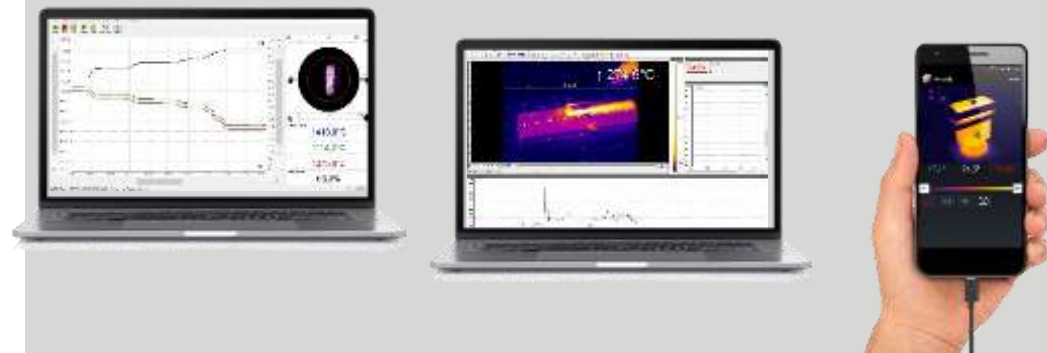
■ Infrared thermometers



■ Accessories



■ Software/ Apps



II. Solutions for Measurement & Automation Applications

3. Optris: Non-contact infrared Temperature Measurement



HUYNH BANG



II. Solutions for Measurement & Automation Applications

3. Optris: Non-contact infrared Temperature Measurement



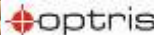
HUYNH BANG



Checking installation
from Optris specialist



PI 450i



PC with Optris PIX Connect software

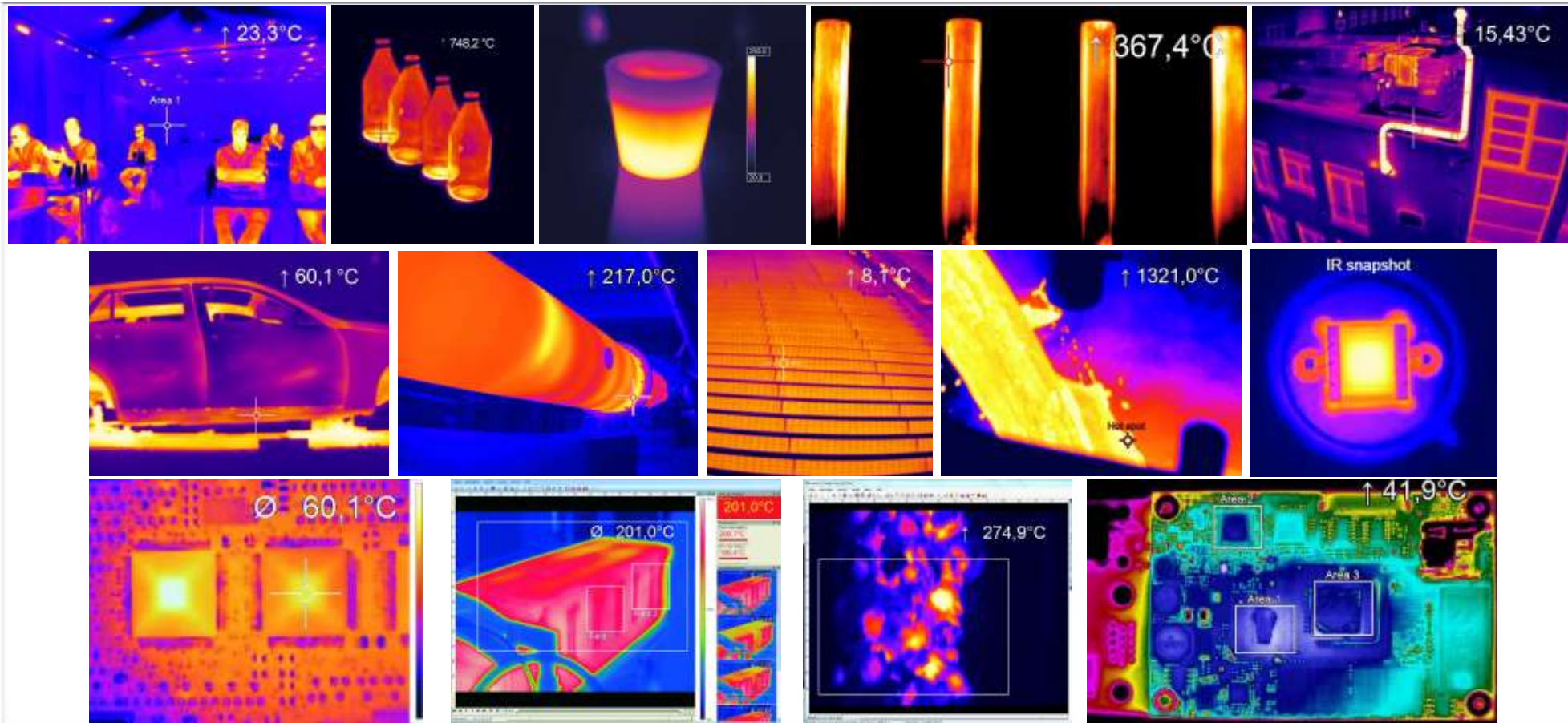
Glass manufacturer

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



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



TRICOR Coriolis Evaluation Electronics



Pickups and amplifiers



Evaluation Electronics



II. Solutions for Measurement & Automation Applications

4. KEM references



HUYNH BANG



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



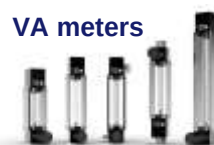
HUYNH BANG



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				
Industrial MFM/MFC Ex / IP67 	Hi Flow – DP d-flux 		Surface treatment	Vapour deposition parts Flat glass treatment	Gas type			
			R&D/Analytical	Analytical equipment Car emission testing				
Smarttrak MFM/MFC 	OEM Solutions 		Testing	Leak test Flow verification	Air	Air	D ₂	Deuterium
			Material	Heat treatment ovens Semiconductor grey market	N ₂	Nitrogen	C ₂ H ₆	Ethane
VA meters 	Precision Needle Valves 		Food/Beverage	Ice cream manufacturing Beer manufacturing	Ar	Argon	C ₂ H ₄	Ethene, Ethylene
			Energy/Power	Consumption Fuel cell development	He	Helium	C ₂ F ₆	Hexafluoromethane, Freon 116
			Semi-conductor	Wafer manufacturing and handling, Lithography, Testing	CO ₂	Carbon dioxide	CHClF ₂	Chlorodifluoromethane, Freon-22
			General	Fiberglass manufacturing Water Purification	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

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



HUYNH BANG

Permeability measurements of concrete



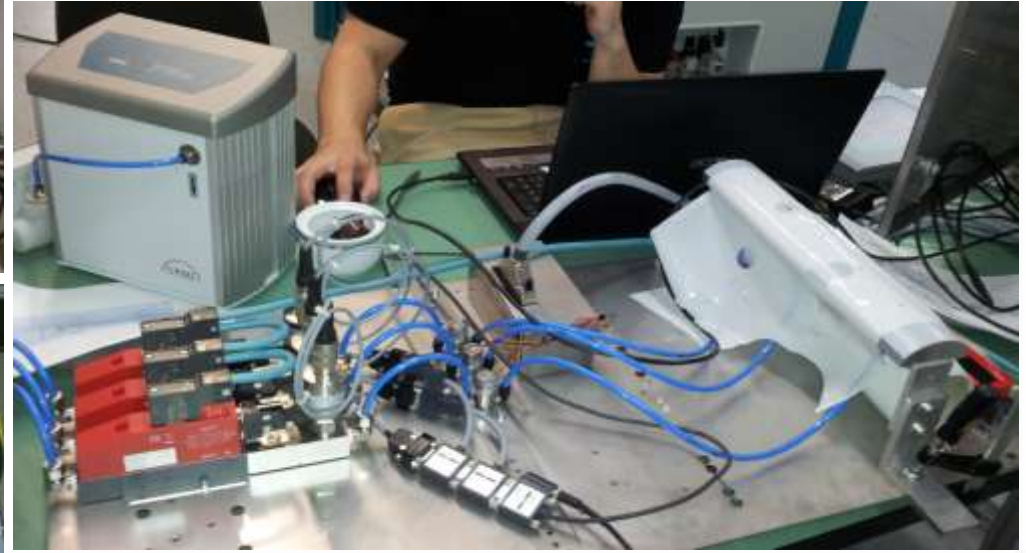
Permeability test of membranes



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



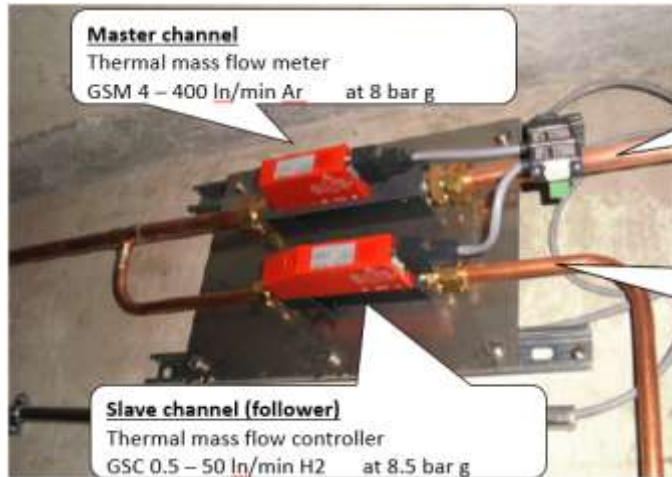
Mixing block GZB / GRB



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 Miniature Fire Extinguisher)



HUYNH BANG

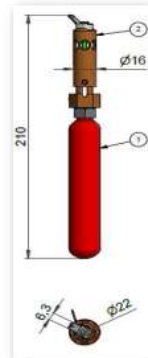
AMFE: PRODUCT SIZES

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

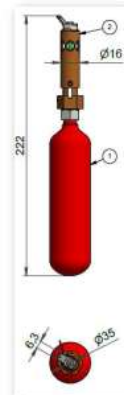
Electrical Cabinet Description	Dimensions (HxWxD) in mm			Volume in m³	Recommended AMFE Size
Factory # 1	800	600	250	0.12	1
Factory # 2	1500	800	300	0.36	3
Factory # 3	2500	1000	600	1.5	5



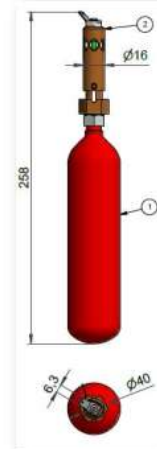
Try to sizing here



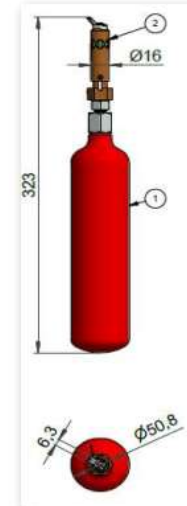
Size 0



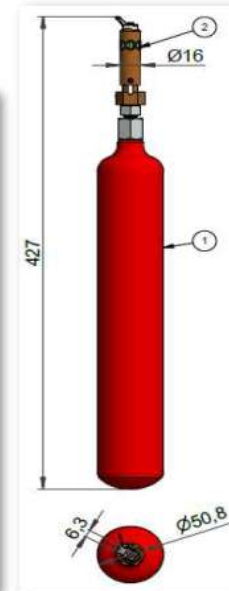
Size 1



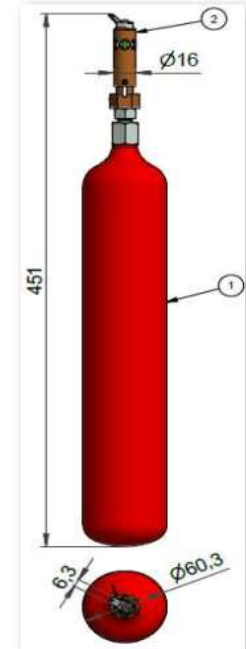
Size 2



Size 3



Size 4



Size 5

II. Solutions for Measurement & Automation Applications

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



HUYNH BANG

COMPANY

AMFE: INSTALLATION EXAMPLES

AMFE



S-AMFE



R-AMFE



II. Solutions for Measurement & Automation Applications

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

AMFE: CUSTOMER ADVANTAGES

Automatic fire detection and extinction

Fire extinguishing network with Multialert®

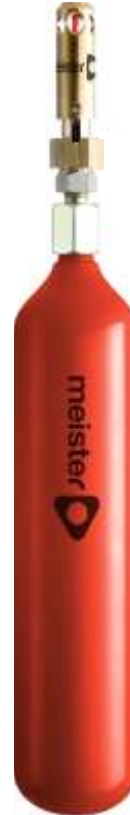
No harm to humans & components (FK-5-1-12)

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 CO₂



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 (Sm³/h, Nm³/h)



Temperature



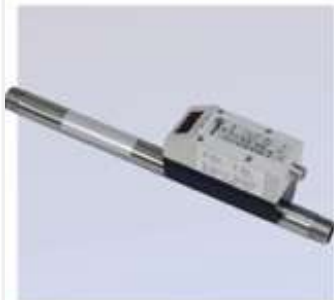
II. Solutions for Measurement & Automation Applications

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



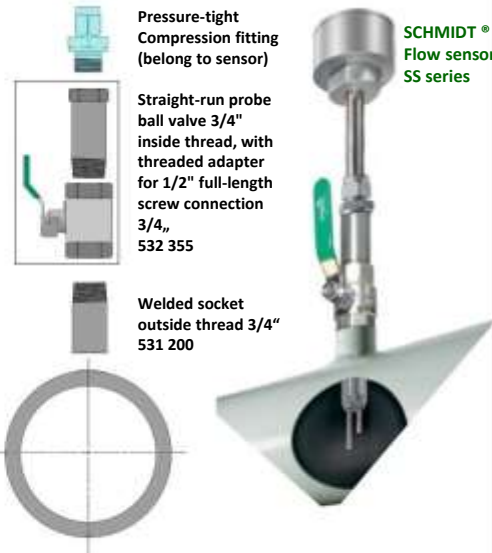
SCHMIDT®
Flow sensor
SS series

Pressure-tight
Compression fitting
(belong to sensor)

Welding sleeve G 1/2
524 916

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

Variation #1 –
Direct mounting

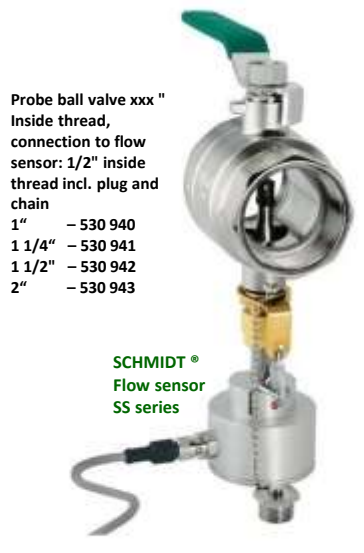


SCHMIDT®
Flow sensor
SS series

Pressure-tight
Compression fitting
(belong to sensor)

Welded socket
outside thread 3/4"
531 200

Variation #2 –
Mounting on ball valve



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

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 5th
generation reliability



Vaisala quality



Robust design



Engineer to
order service



Drift-free
measurement



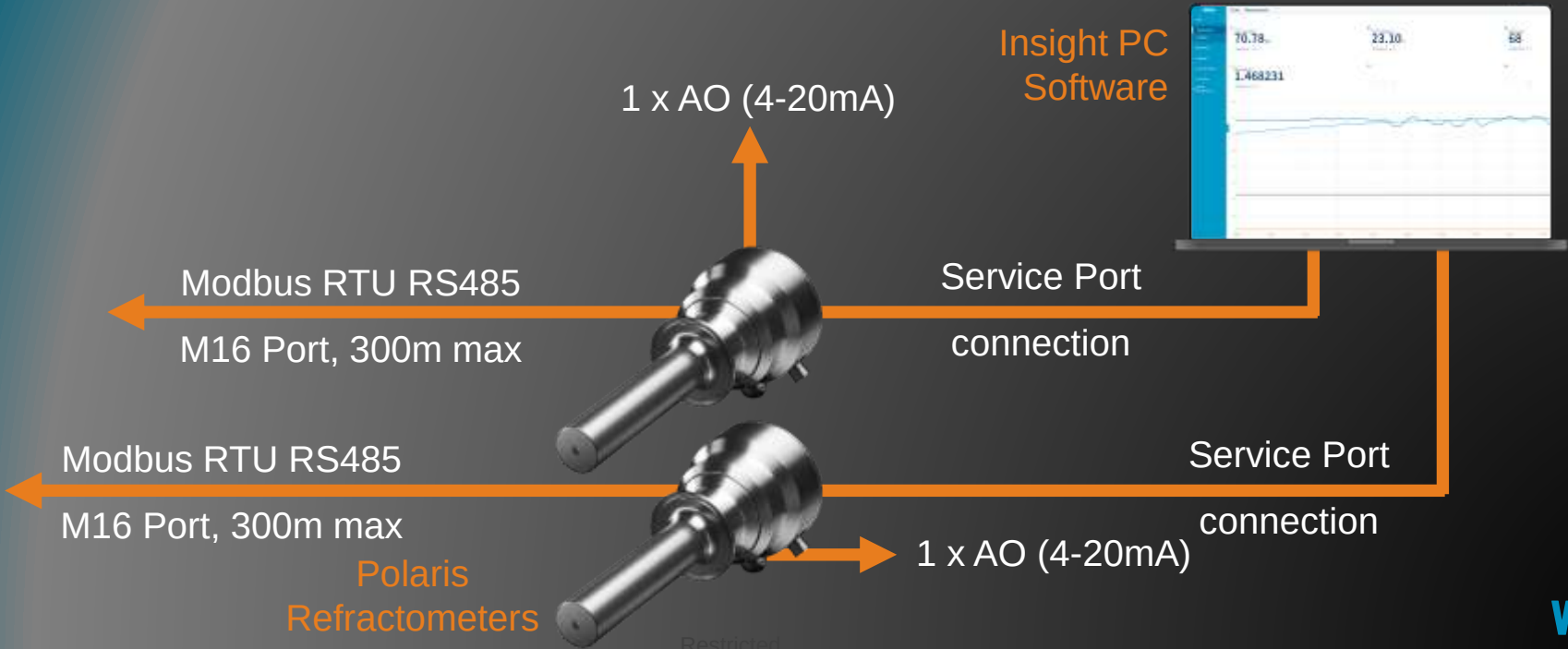
Global and local
customer service
and support



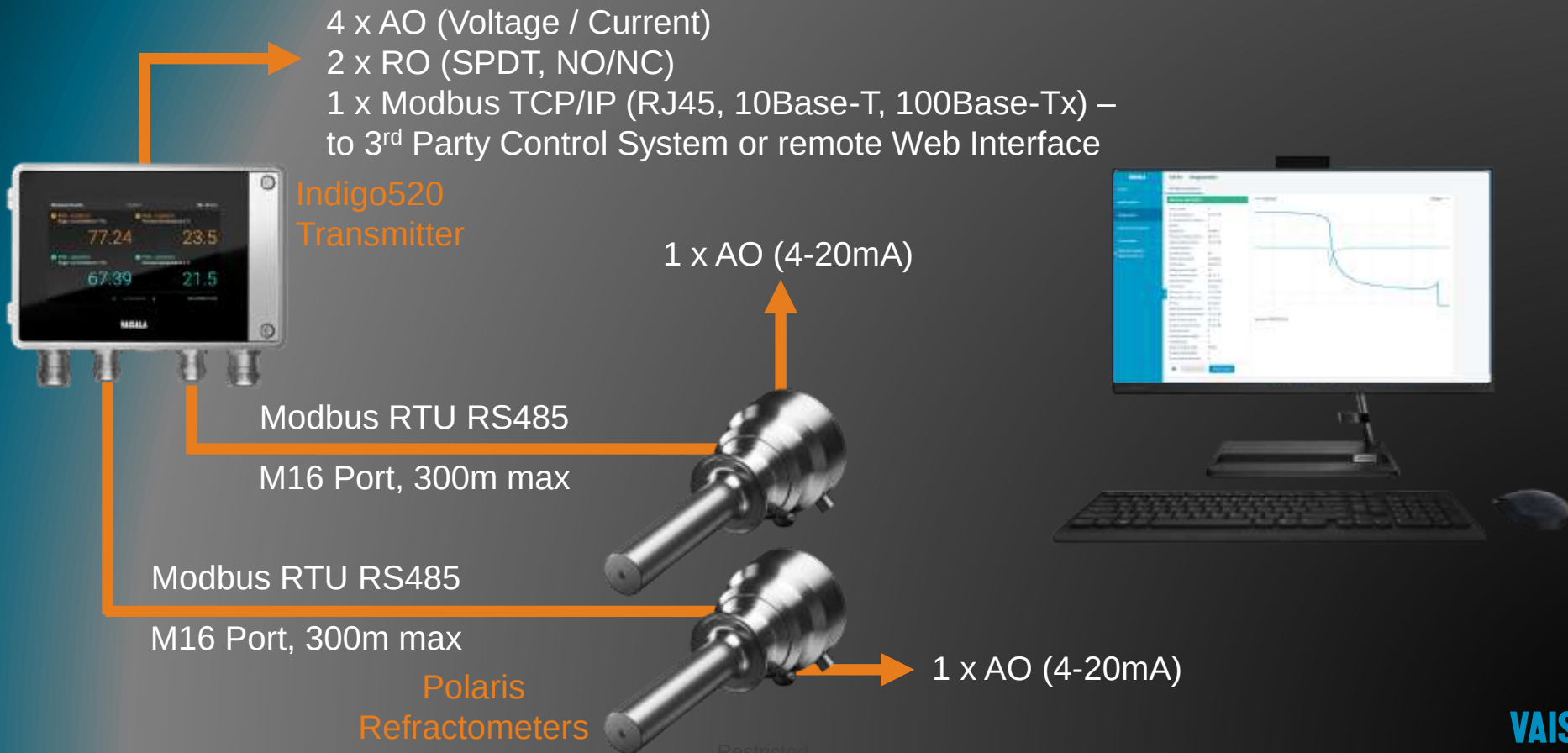
Widest offering and
industry expertise



Vaisala Polaris process refractometer (Schematic)



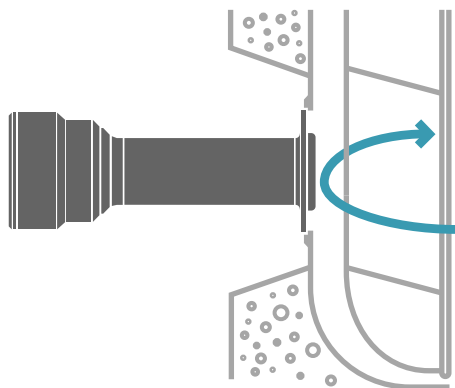
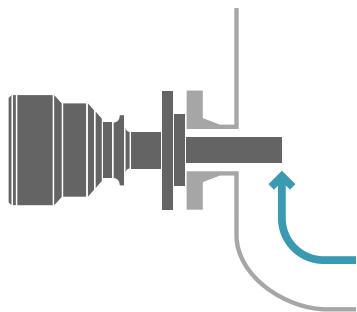
Vaisala Polaris process refractometer (Schematic)



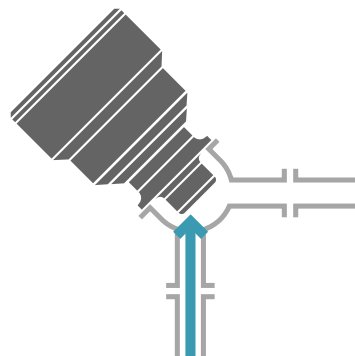
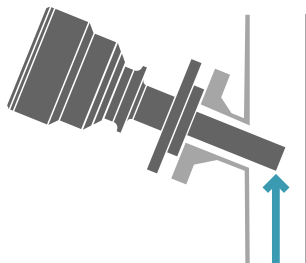
Vaisala Process Refractometer

Installation Flexibility

■ Vessel/Tank

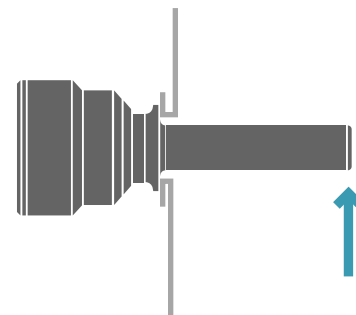
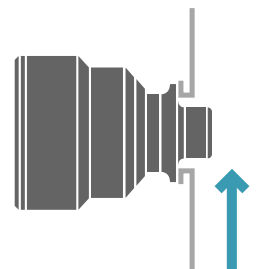


■ Pipeline



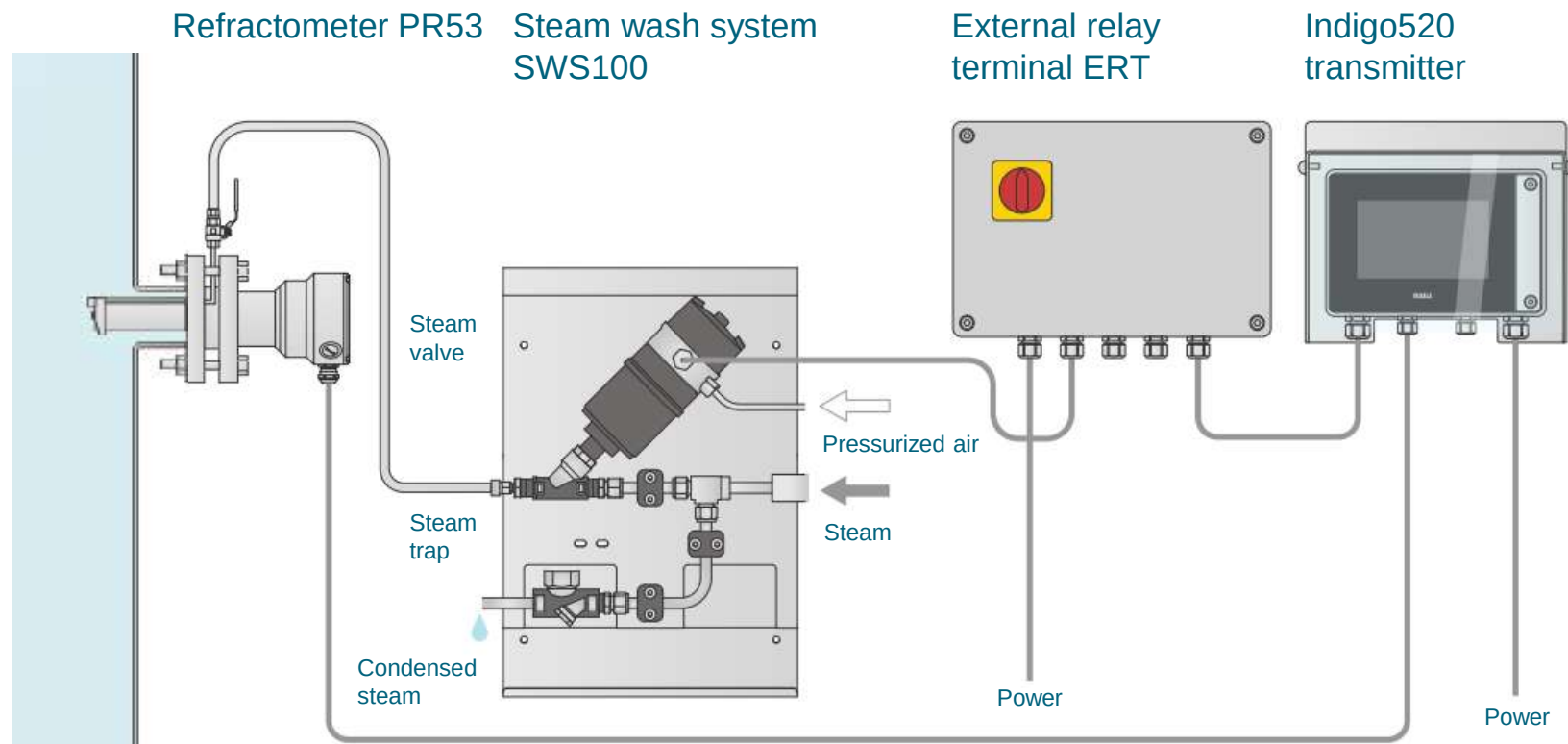
Restricted

■ Varivent

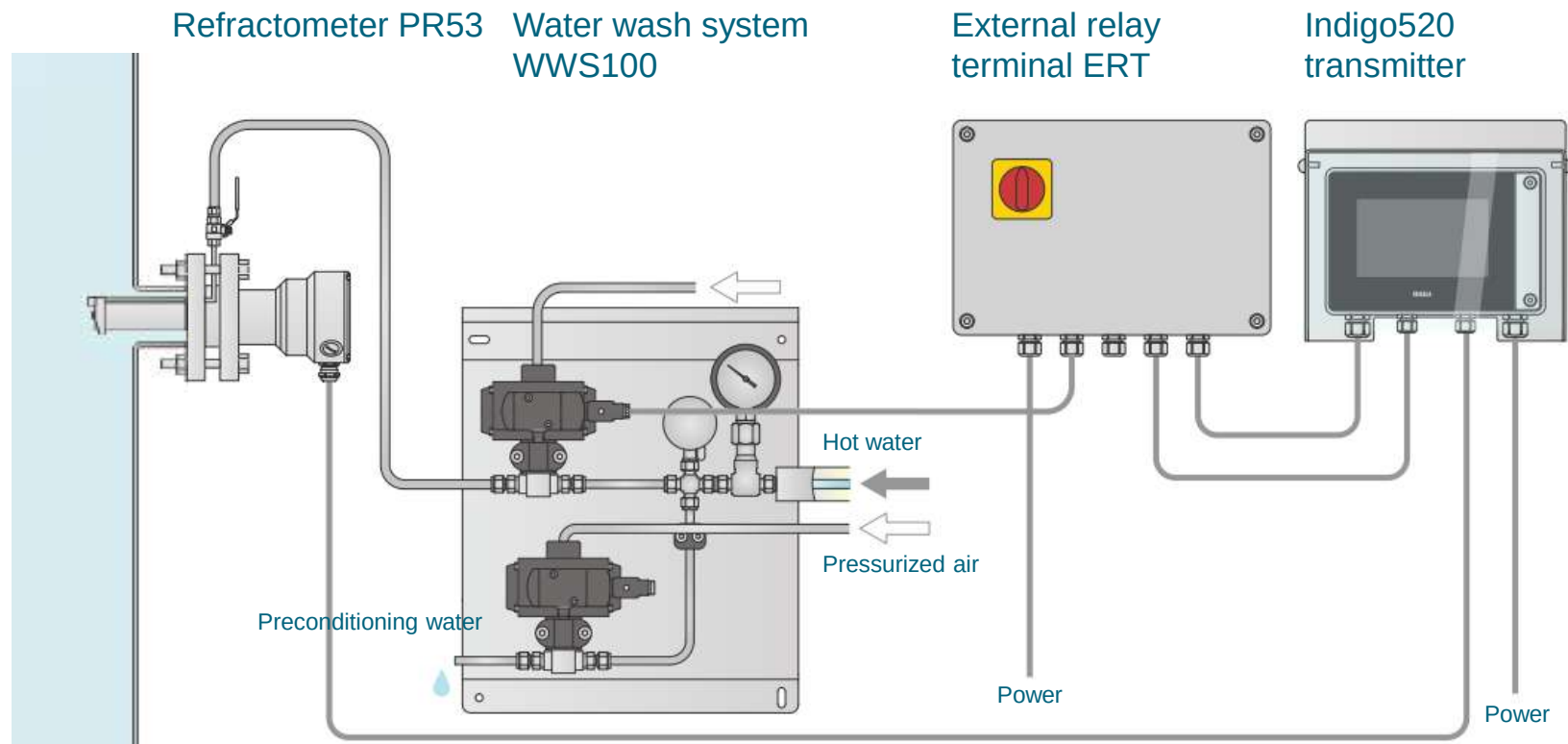


VAISALA

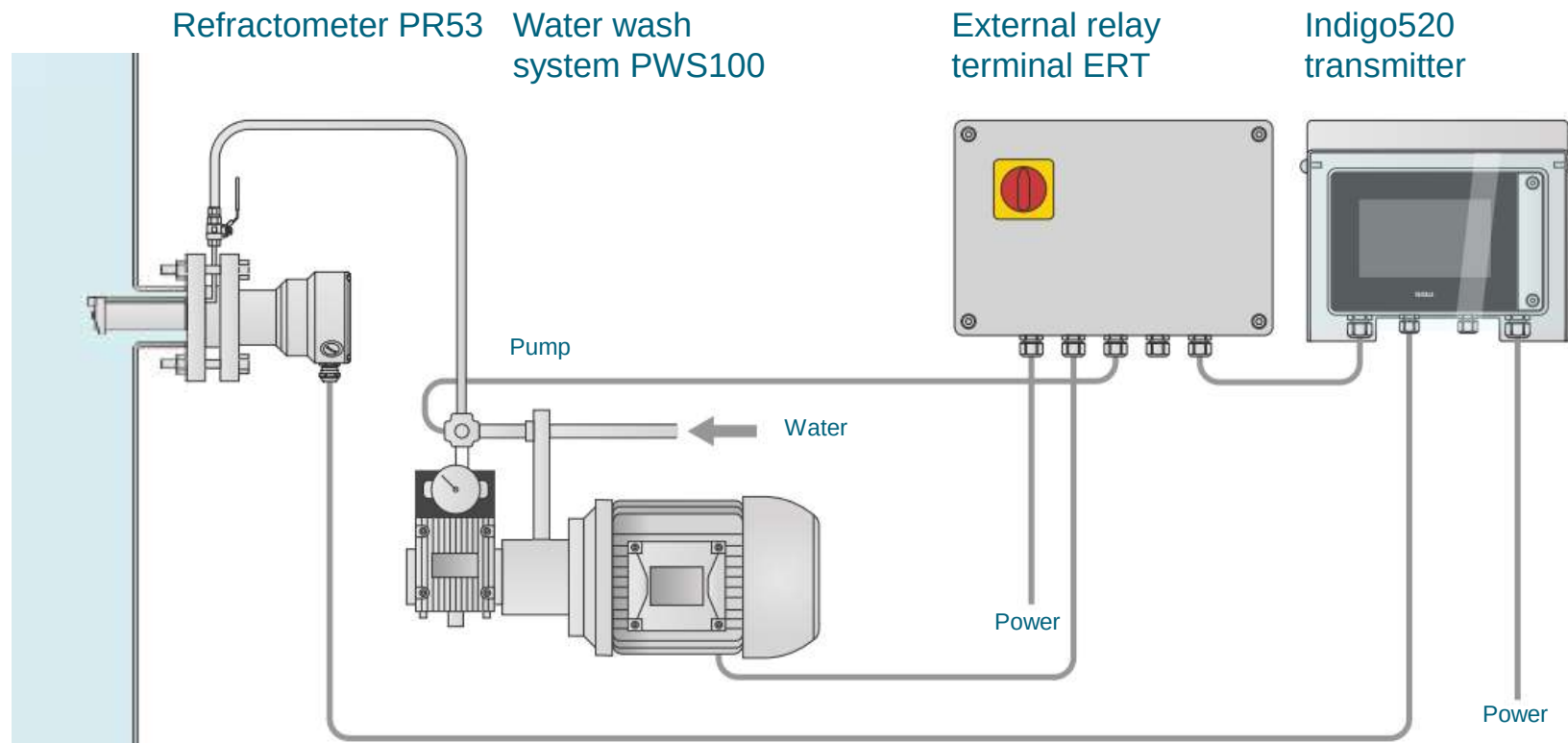
Steam Wash System



Water Wash System



Pressurized Wash System



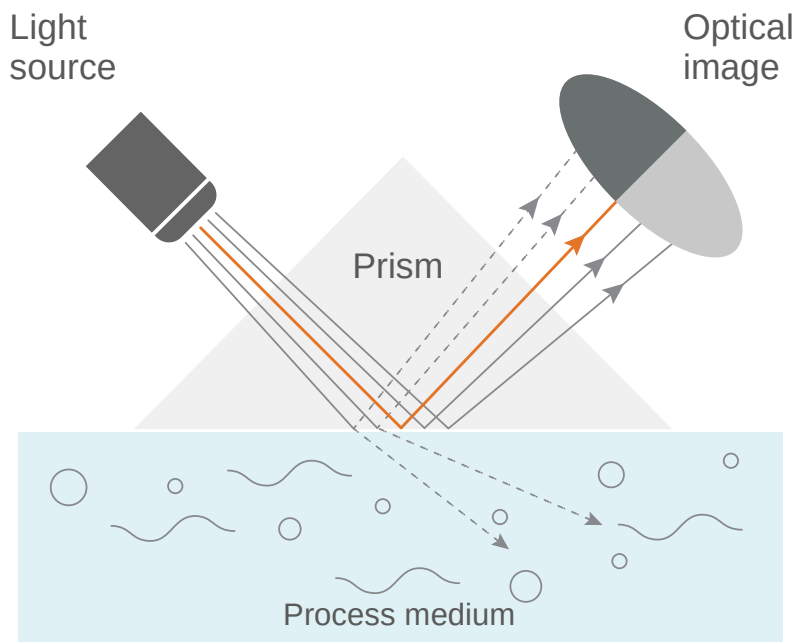
Refractive Index



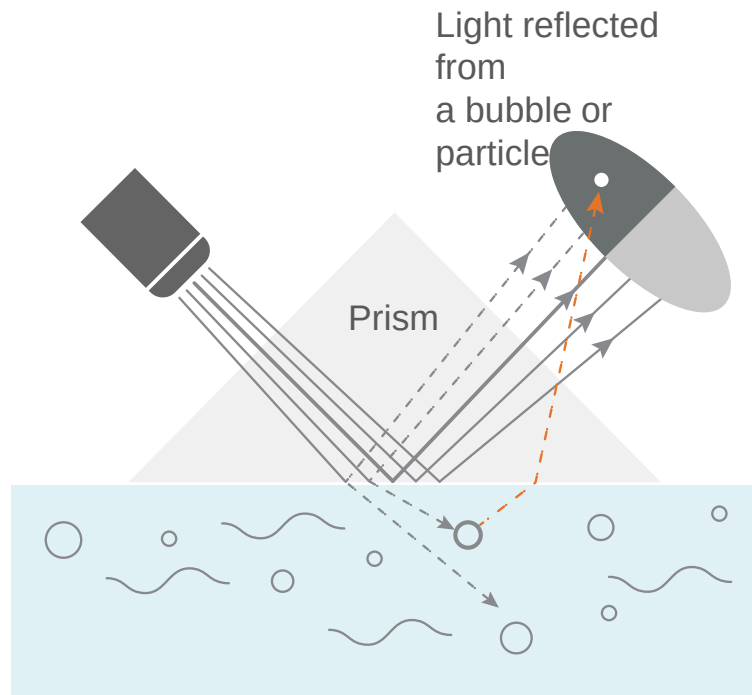
- Physical Property of a substance
- Measurable
- No chemical change
- “Power of Bending the light”
- Concentration of the solution affect Power of Bending or Refractive Index
- Higher Concentration, more bend

Refractometer Animation

Critical angle measurement



No moving parts
No Drift
No Re-calibration



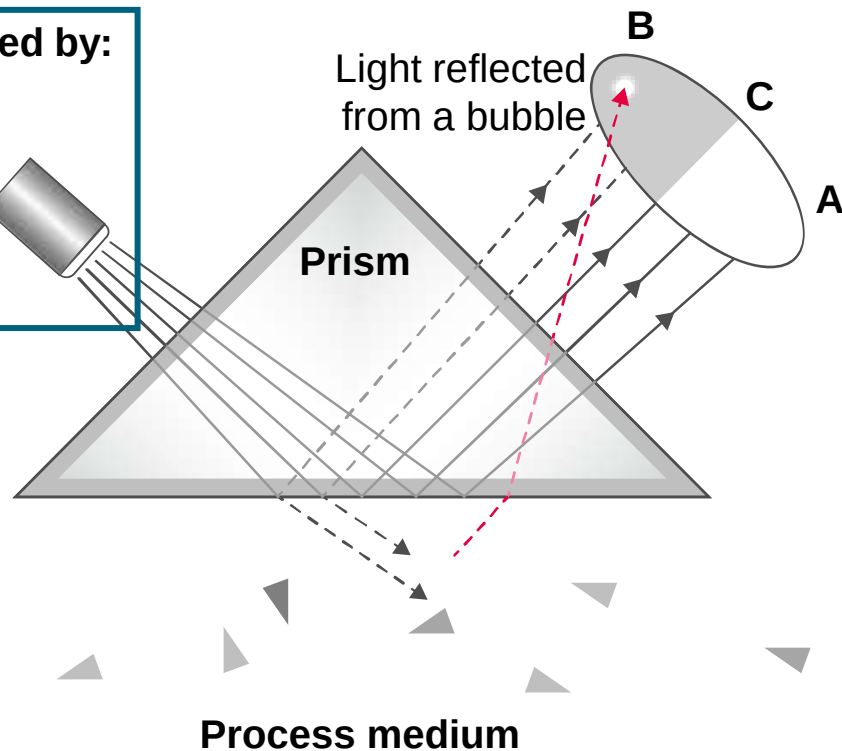
Not influenced by
Particles, Bubbles or Color,
Flow regime and Internal pipe coating

True Measurement of Dissolved Components

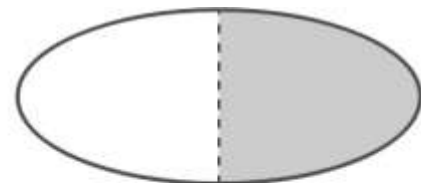
Digitization reduce Measurement Uncertainty

Not affected by:

- Crystals
- Particles
- Bubbles
- Colour



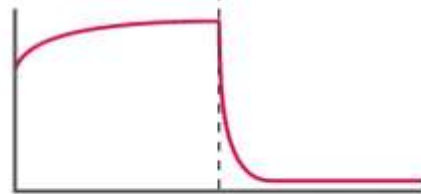
Optical image



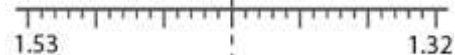
CCD camera



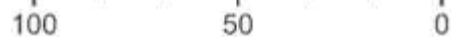
Digital image



Refractive index n_D



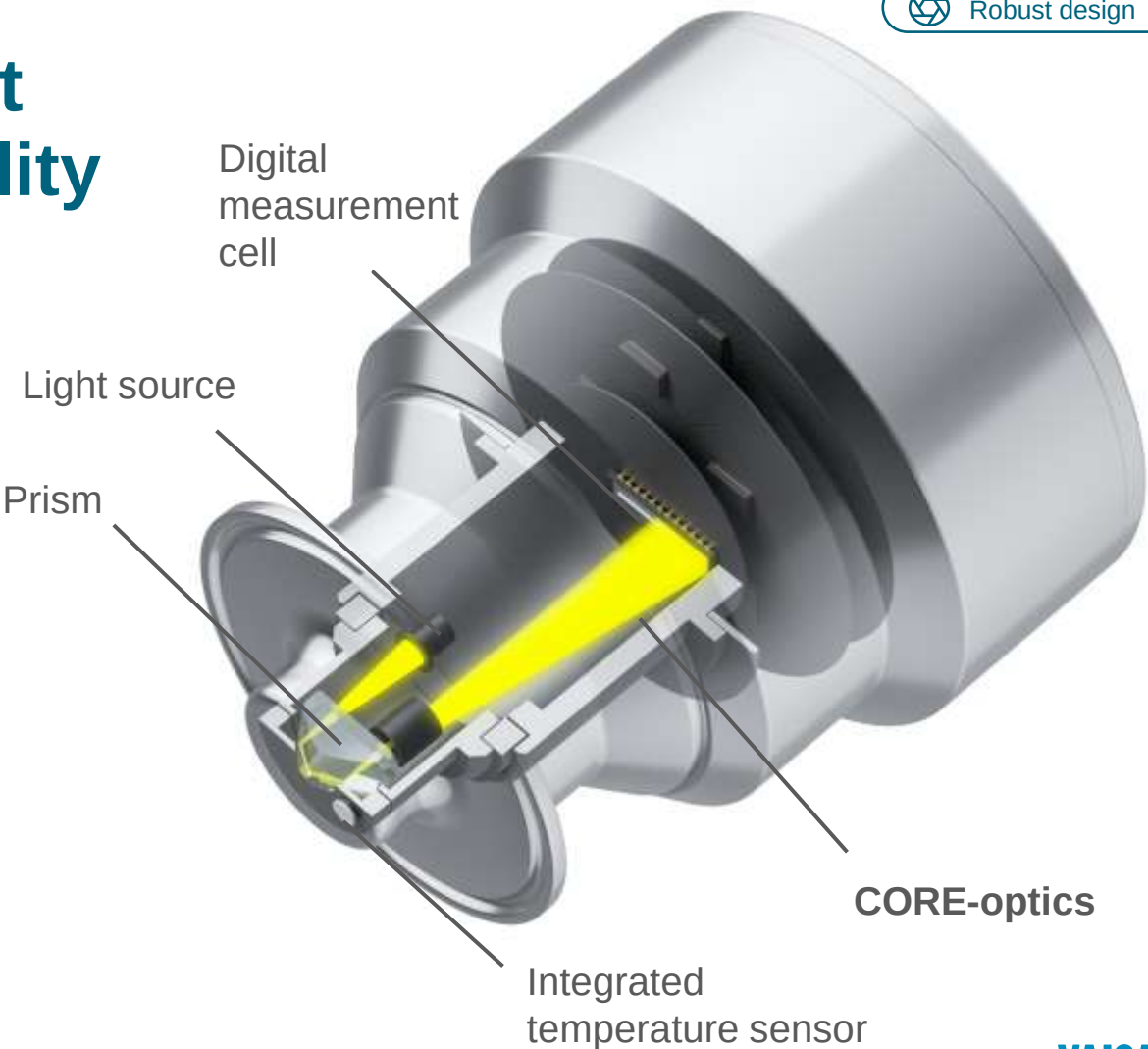
Conc. %



Drift-free measurement with outstanding stability

Built to last and measure in most demanding process conditions

- CORE-optics
- Electronics isolated from process temperature

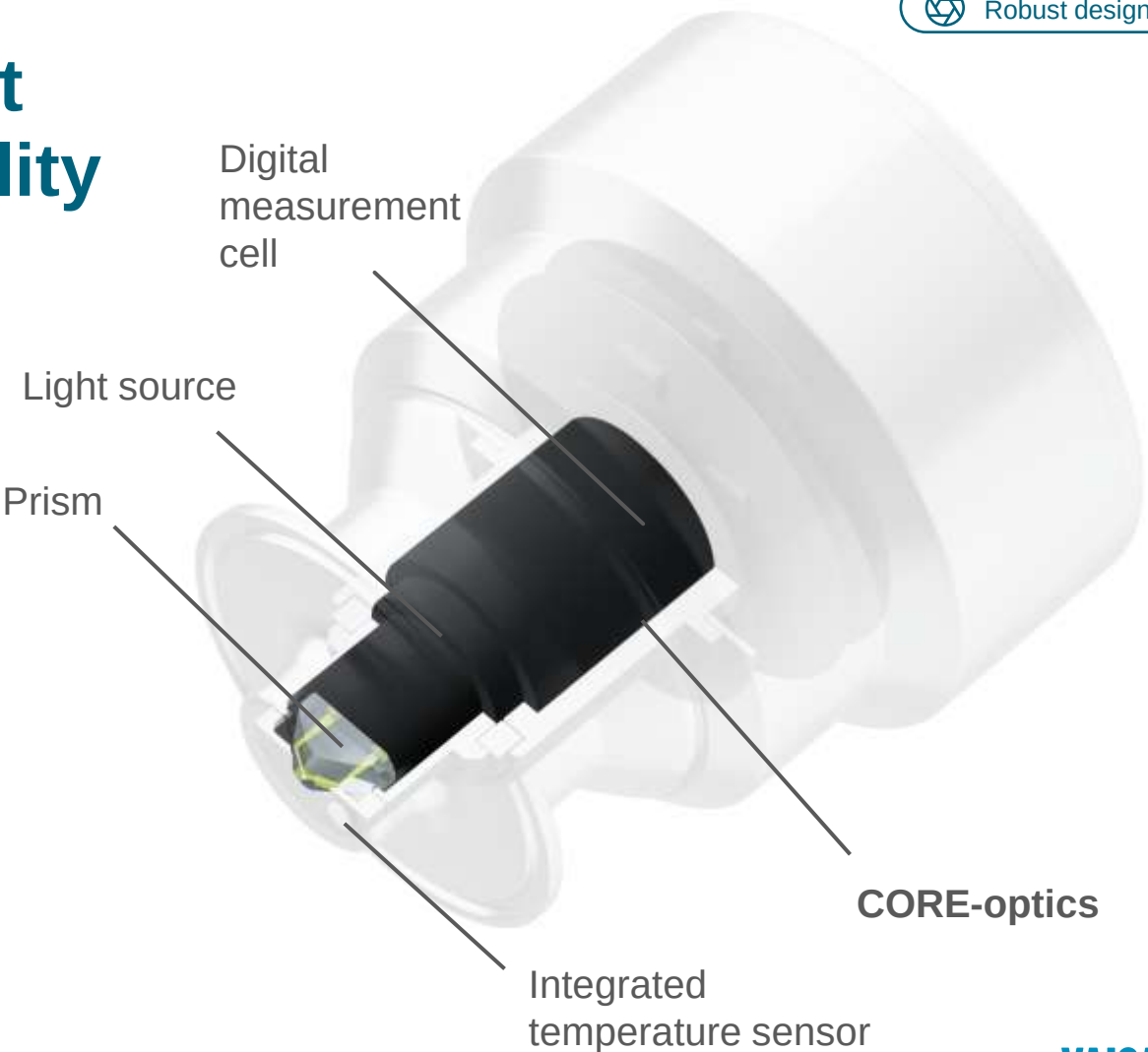


Drift-free measurement with outstanding stability

Built to last and measure in most demanding process conditions

Not Affected by

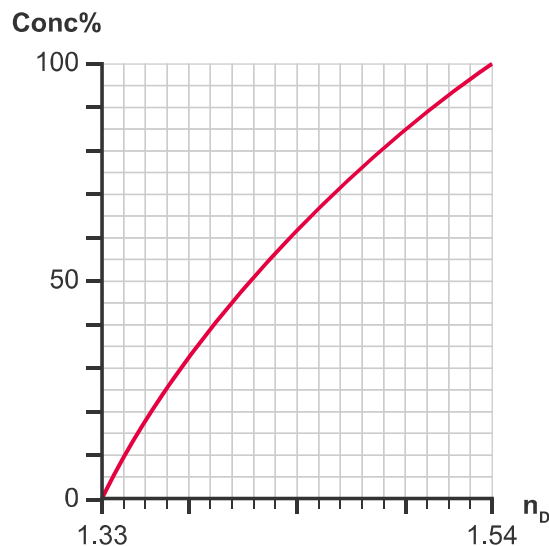
- Vibration
- Temperature Shock
- Pressure Peak



Vaisala Process Refractometer

Exact Calibration

Refractive Index n_D and Concentration Conversion



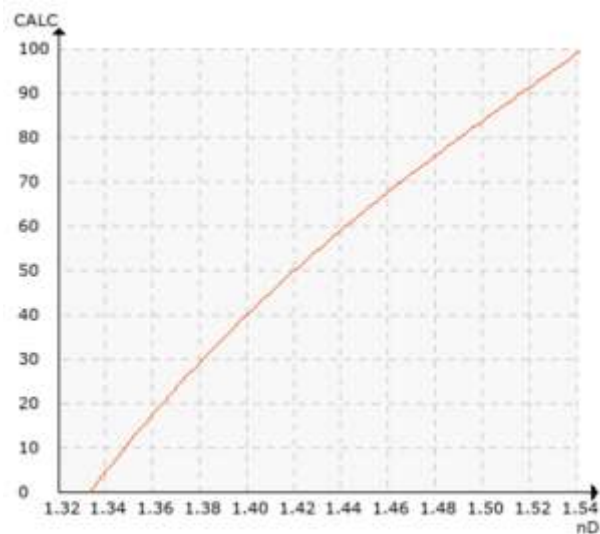
Matches exactly

Standard Concentration Tables

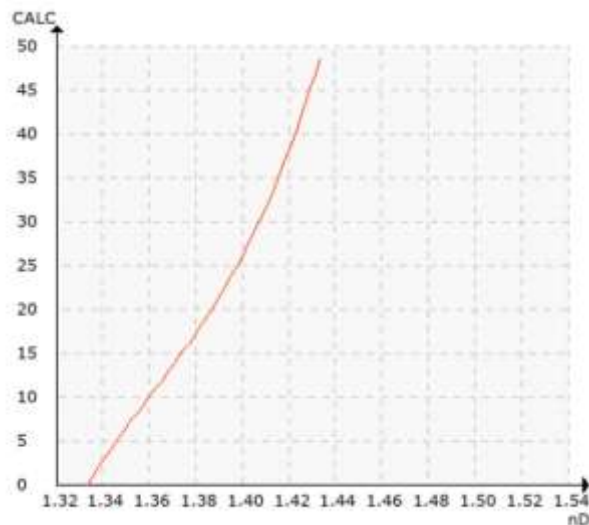
Conc%	n_D
0	1.3300
10	1.3478
20	1.3639
100	1.5400

From Refractive Index to Concentration Value

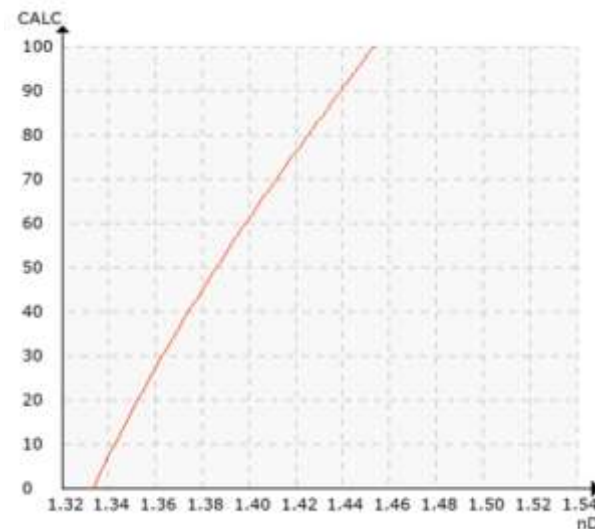
Sugar (°Brix)



Caustic Soda (% bw)

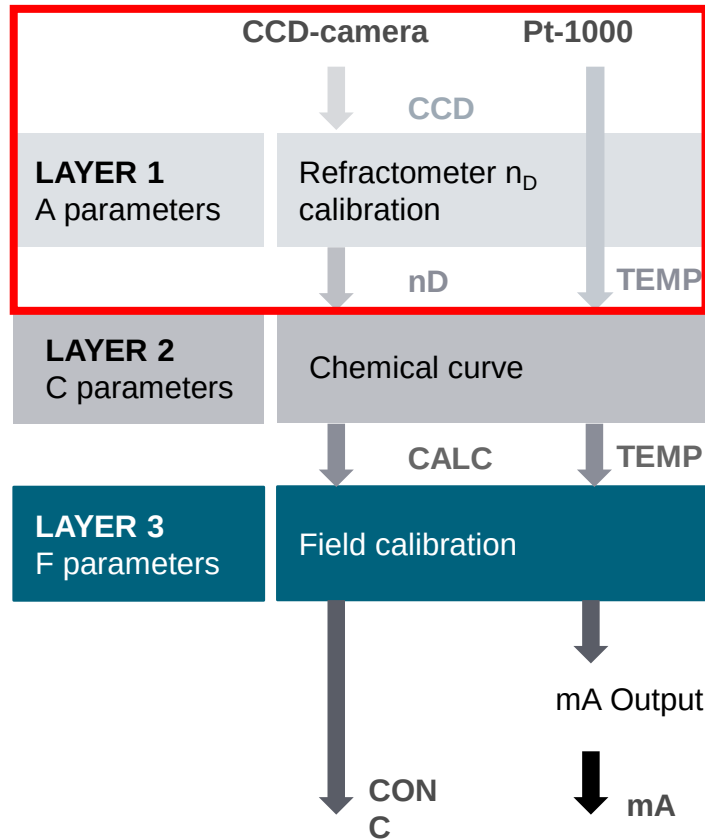


Phosphoric Acid (% bw)



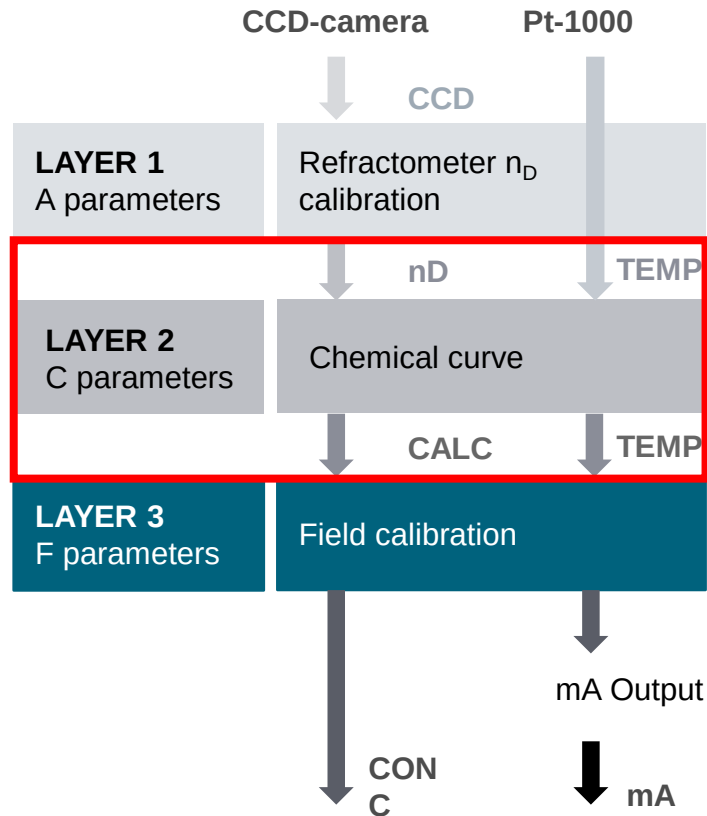
Vaisala Process Refractometer

Unique 3-Layer Calibration (layer 1)

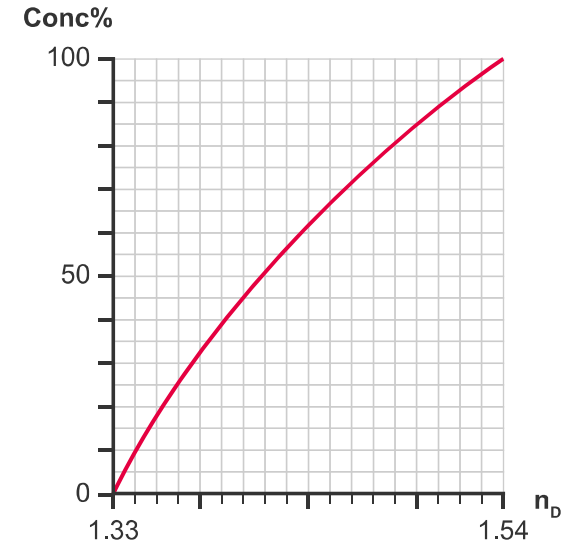


Vaisala Process Refractometer

Unique 3-Layer Calibration (layer 2)

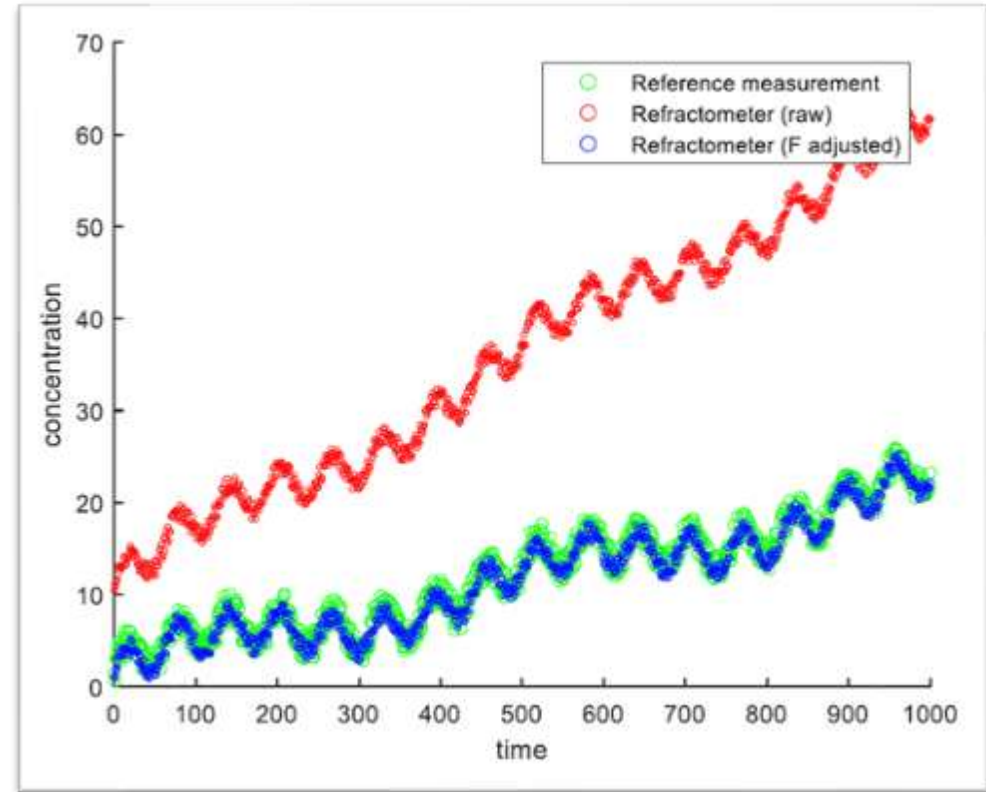
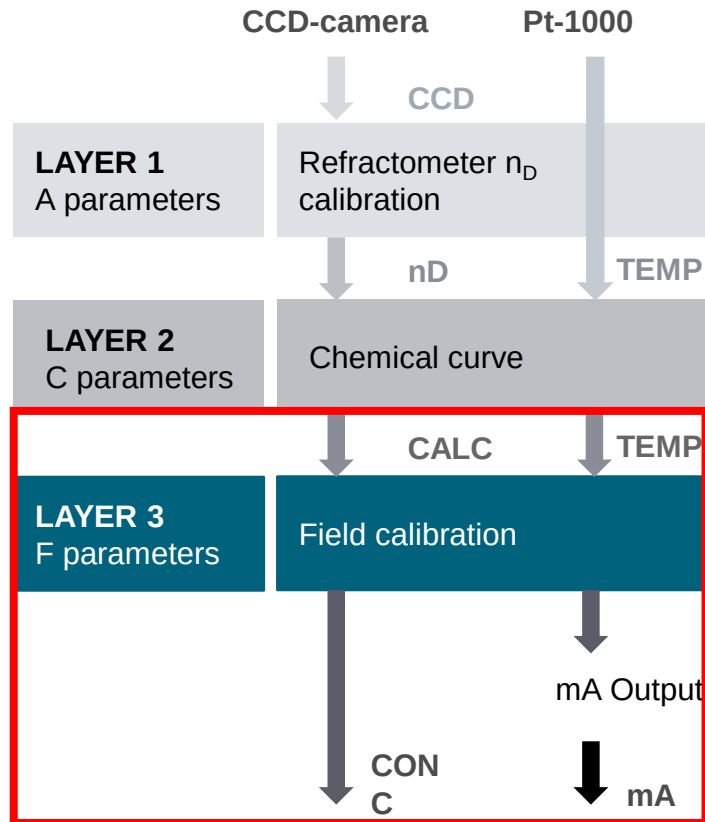


Refractive Index n_D and Concentration Conversion



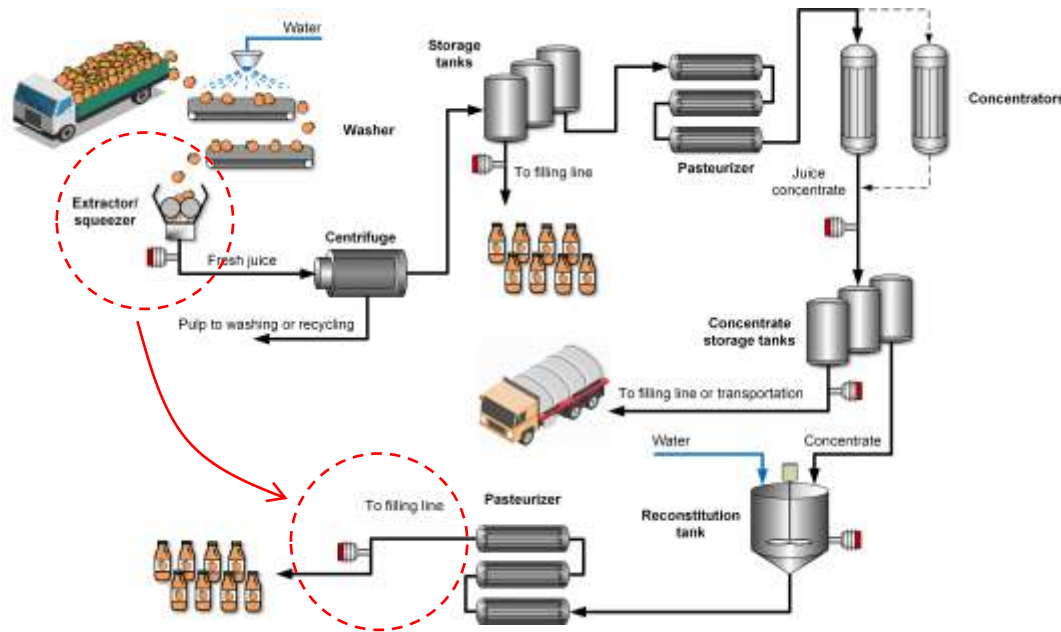
Vaisala Process Refractometer

Unique 3-Layer Calibration (layer 3)



Vaisala Process Refractometer

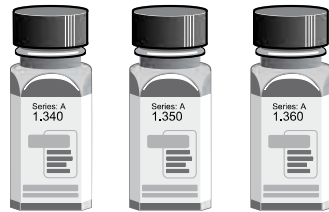
Unique 3-Layer Calibration



- 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

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



VAISALA

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



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

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

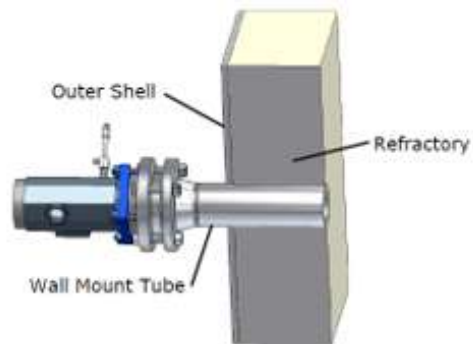


II. Solutions for Measurement & Automation Applications

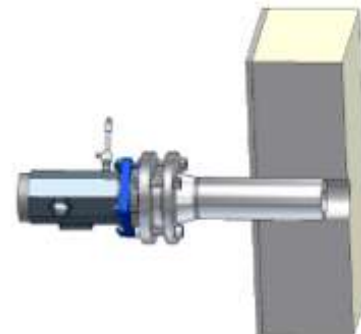
9. CANTY High Temperature Camera Systems



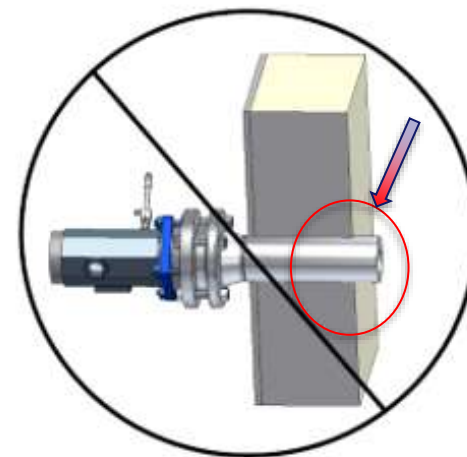
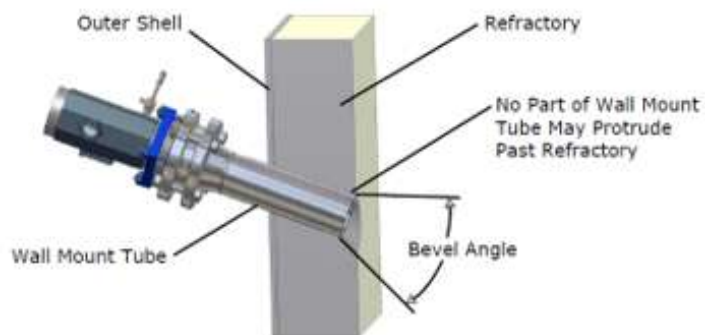
HUYNH BANG



Flush With Refractory



Recessed into Refractory



Unacceptable - Extends Past Refractory

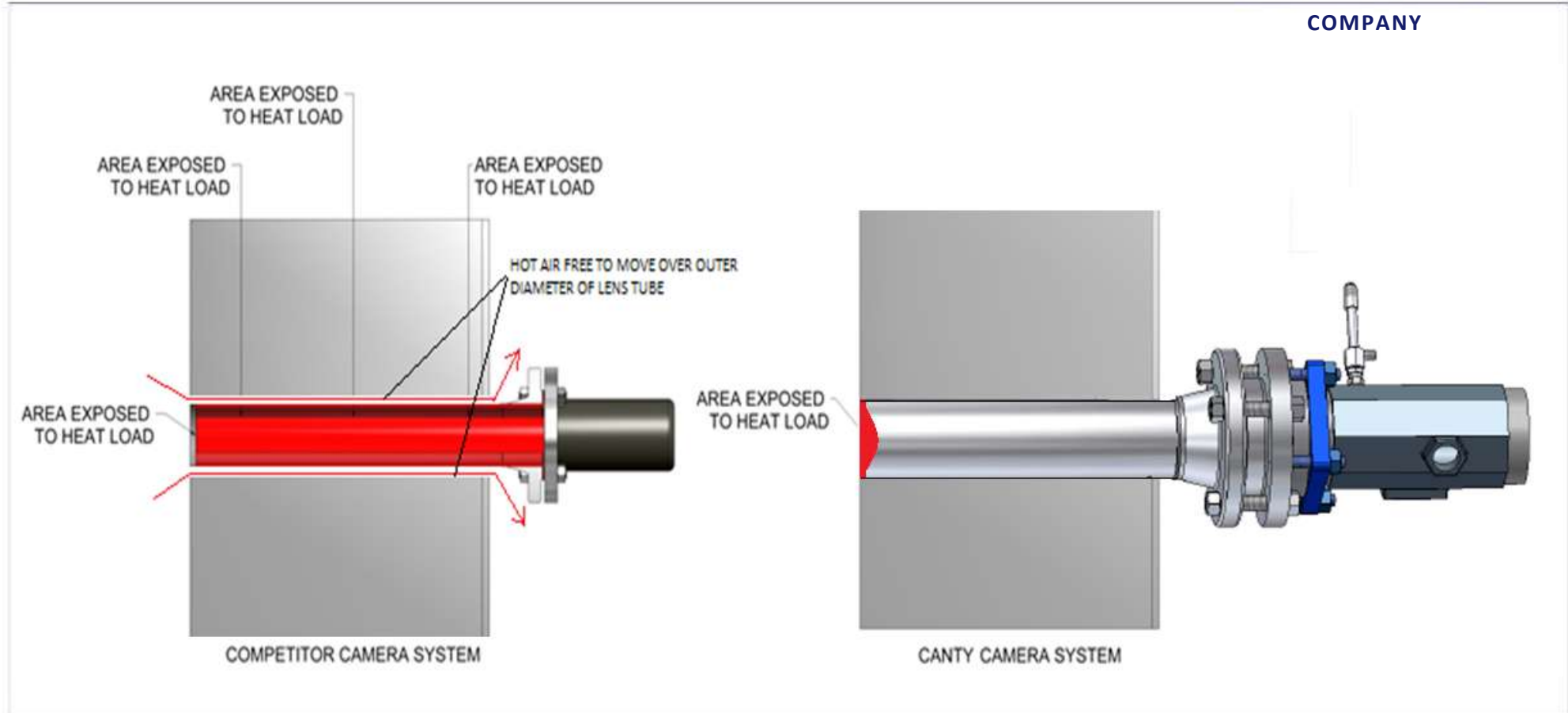
II. Solutions for Measurement & Automation Applications

9. CANTY High Temperature Camera Systems



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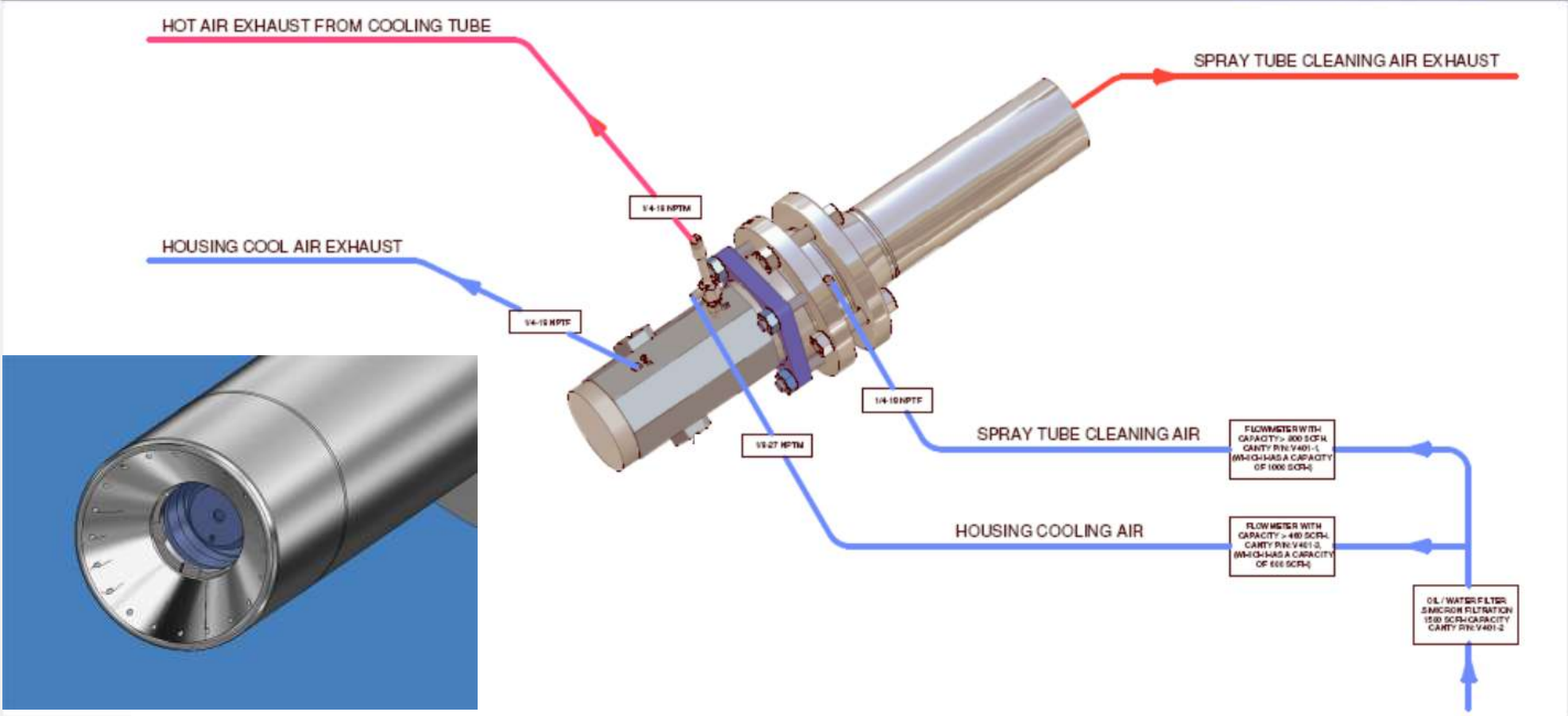


II. Solutions for Measurement & Automation Applications

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



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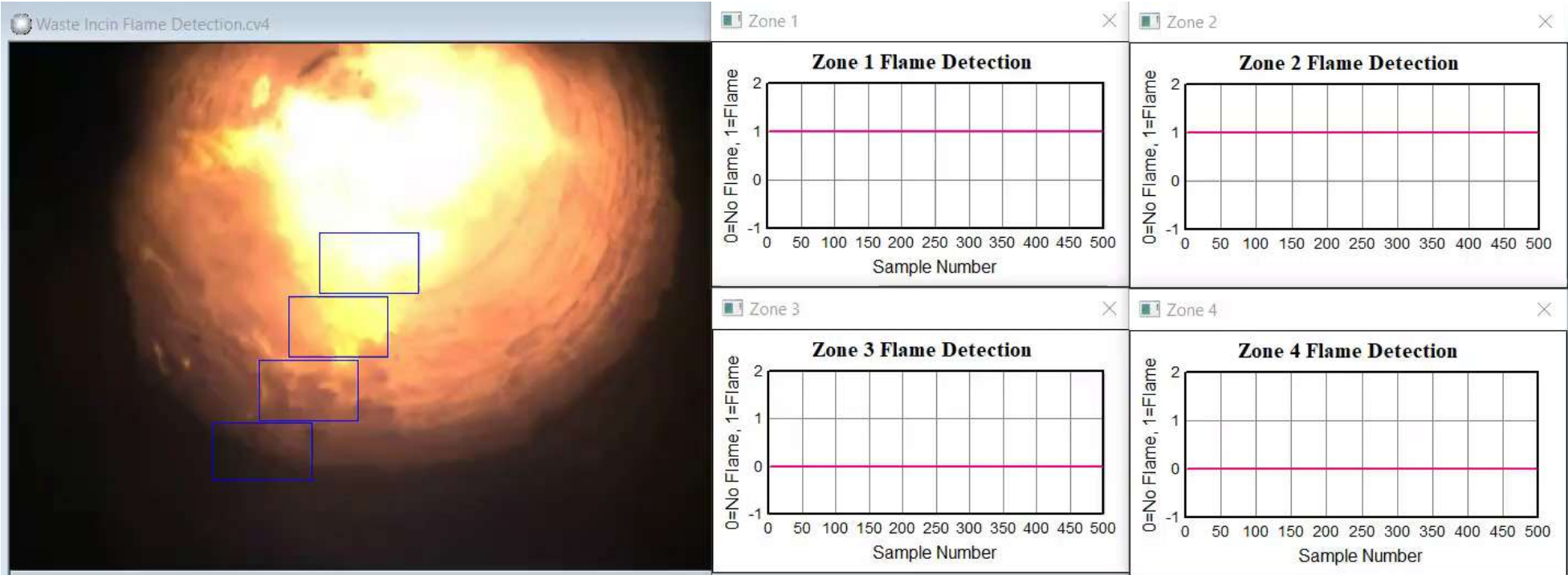
II. Solutions for Measurement & Automation Applications

9. CANTY High Temperature Camera Flame Detection



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Video - flame detection in waste incinerator

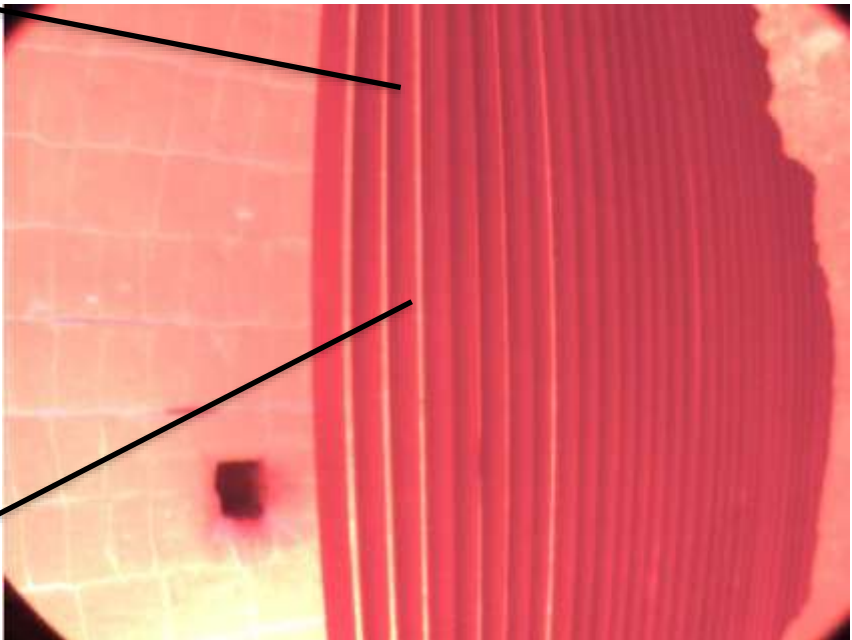
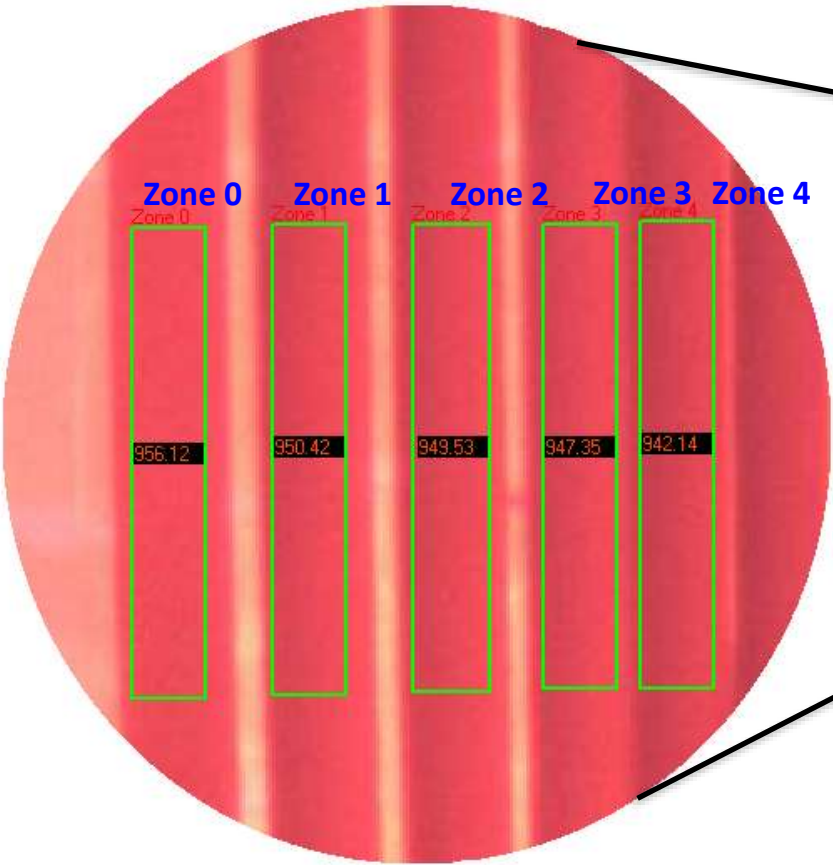


II. Solutions for Measurement & Automation Applications

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

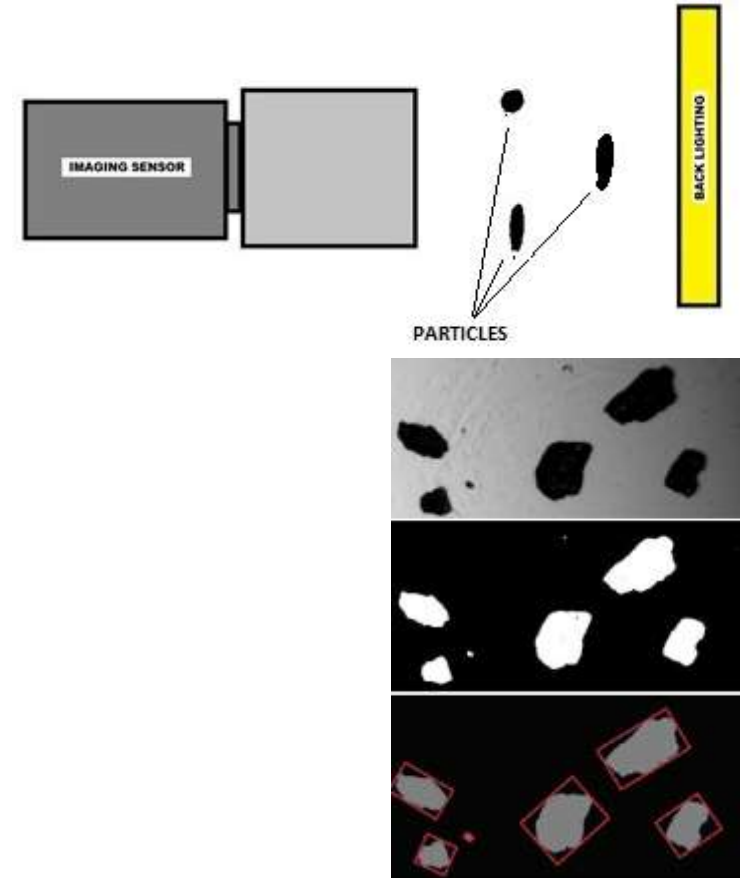


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JM Canty's vision based technique works on the basic principle of presenting the product between micro / macroscopic optics and a high intensity light source (back lighting)

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....

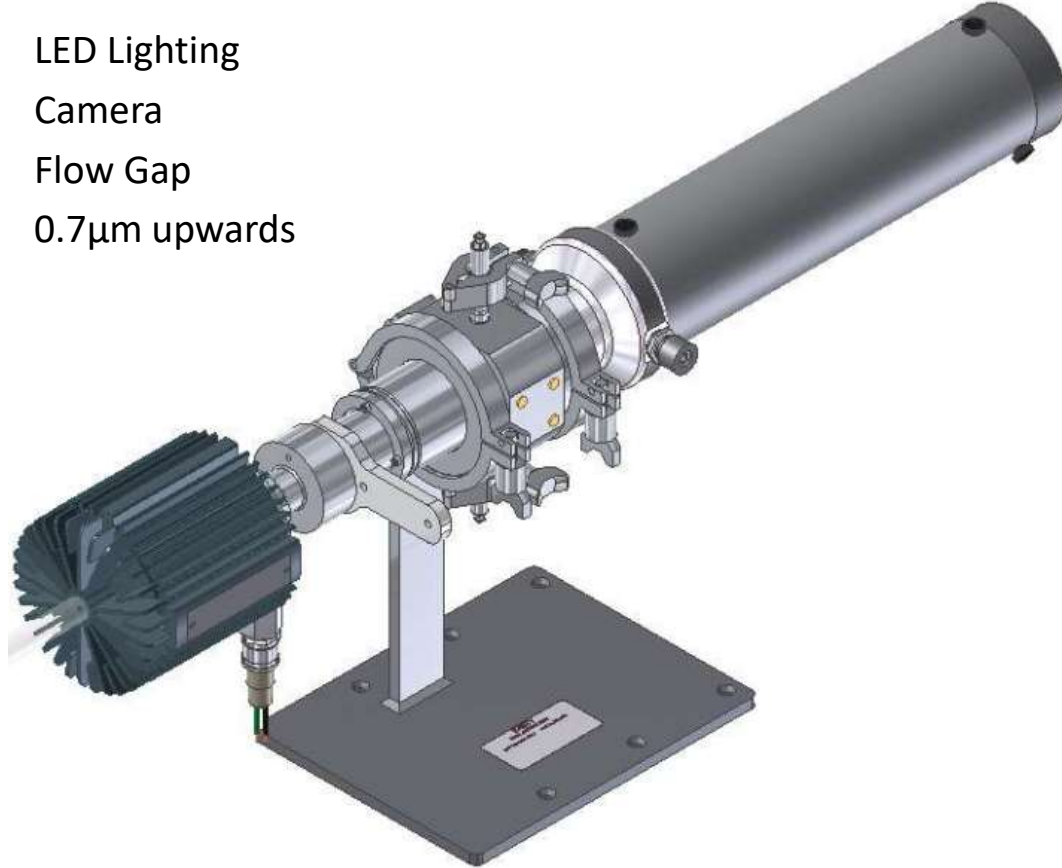
Systems available for Liquids Slurries and Dry Solids



II. Solutions for Measurement & Automation Applications

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

- LED Lighting
- Camera
- Flow Gap
- 0.7 μ 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

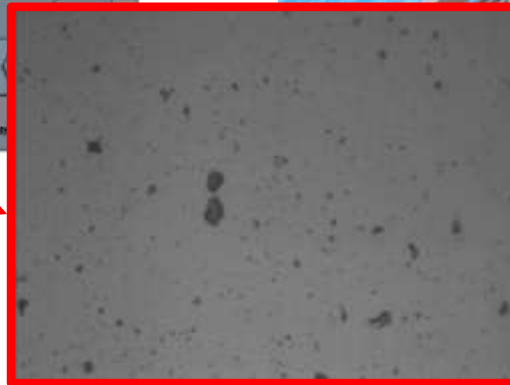
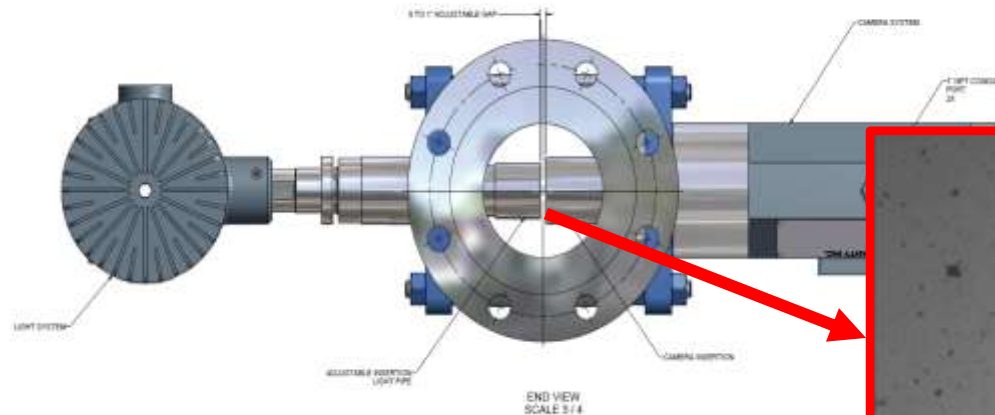


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Inflow Inline System - Mounts directly in pipeline as a spool piece and fluids flows through it

- LED Lighting
- Camera
- Flow Gap
- 0.7 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

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

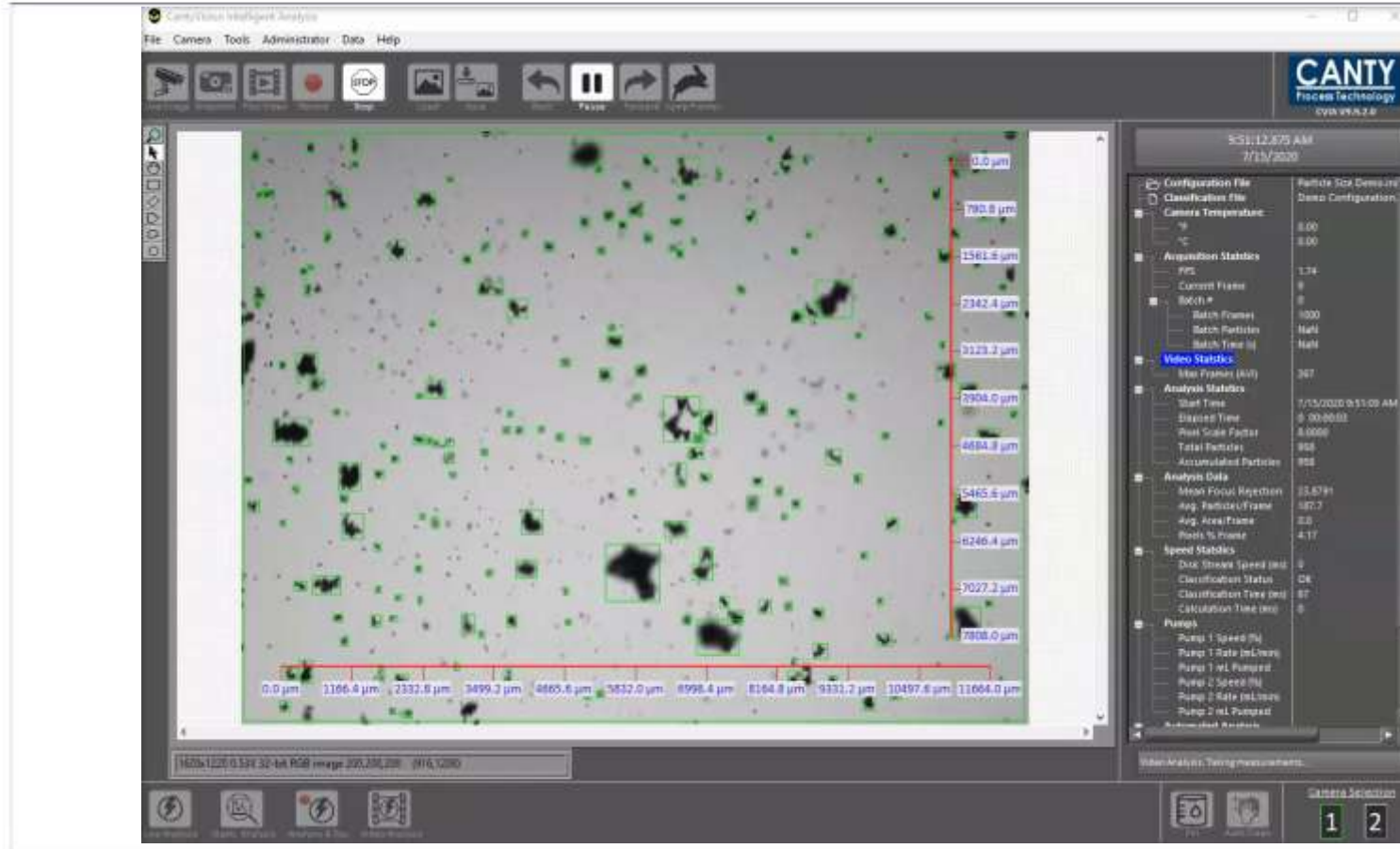
9. CANTY Particle Sizing Systems



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Video –
Particle Sizing Systems
on CANTY Vision software

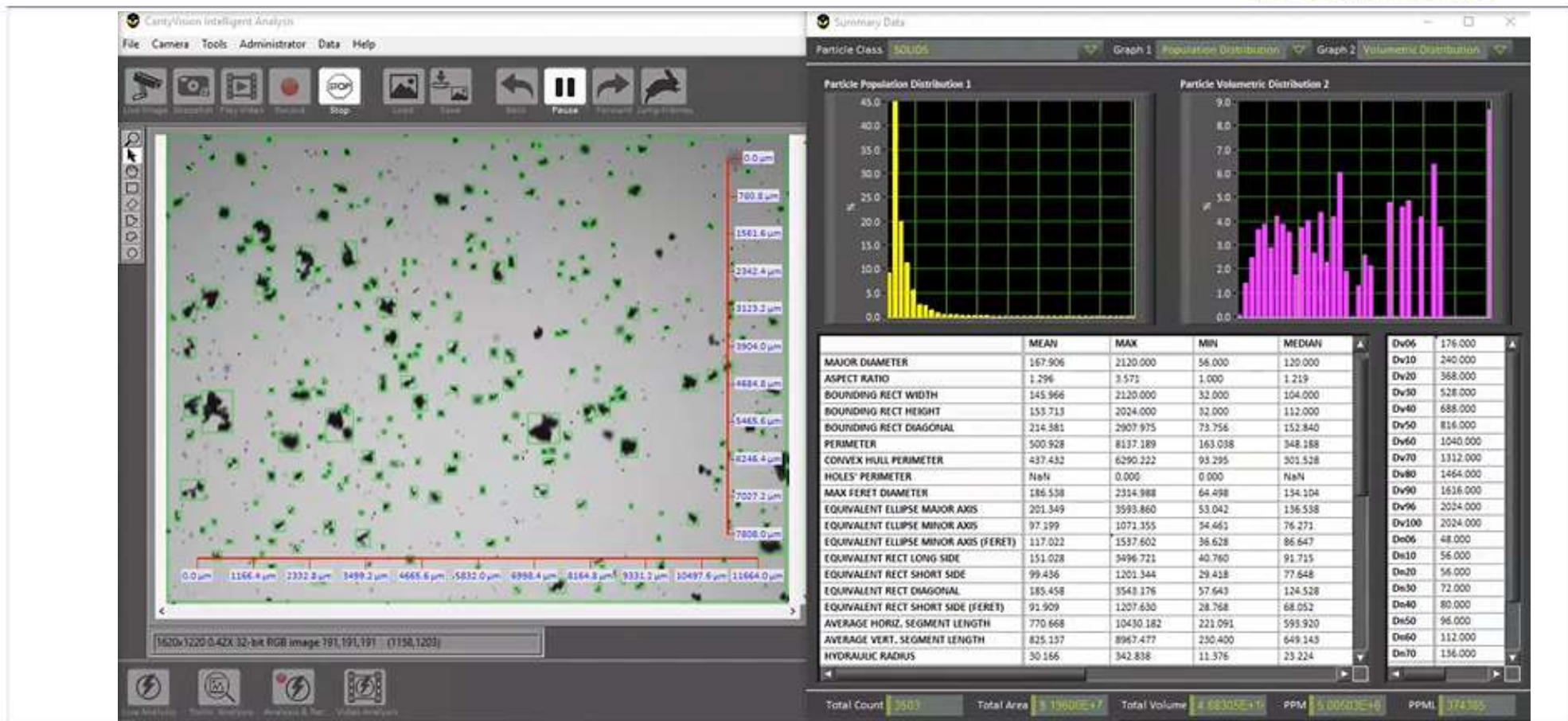


II. Solutions for Measurement & Automation Applications

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
Agriculture - DAWU - mimosaTEK - Rynan - Tây Ninh Tapioca - Vietnam Tapioca	
Boiler Industry - Hong Nhut - IMECO Boiler - Martech Boiler - Vietnam Boiler	
Breweries - Carlsberg - HABECO - Heineken - SABECO - Vietnam Brewery	
Car Manufacturing - Ford - Mercedes-Benz - Thaco - Toyota - VinFast	
Ceramic Industry - Caesar Sanitary Wares - Frit hue - Minh Long I - TOTO Vietnam	
Cement Industry - Insee (Siam City Cement) - Duyen Ha Cement - Ha Tien 1 - Nghi Son Cement - Saint Gobain - Song Thao Cement	
Chemical Industry - Ba Con Co - Ca Mau Fertilizer - Dow - Henkel - LG Vina Chemical - Phu My Fertilizer - Procter & Gamble - Southern Basic Chemical	
Electronics & Semiconductor - First Solar - Hydra - Samsung - SEI Electronic Components	
Food & Beverage - 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 - May Forestry - MDF Quang Tri - Scancom - Vina Eco Board - VRG Dongwha MDF	
Oil & Gas - Linde Gas - Long Son Petrochemicals - Nghi Son Refinery and Petrochemical - Petro Vietnam - Premier Oil - Total - Rosneft - Puma Energy - Saigon Petro - VietsovPetro	
Paper, Packaging & Printing - An Hoa Paper - Cheng Loong - Crown Packaging - SCG Paper / Vina Kraft Paper - Vidon - Wattens Delfort Group	
Pharmaceutical - B.Braun - PYMEPHARCO - Tien Tuan Pharmaceutical Machinery - Suheung - Nanogen - Nipro Pharma	
Power Plants - Phu My 3 Power Plant - Nhiệt điện Phả Lại - Nhiệt điện Quảng Ninh	
Steel Industry - Formosa Ha Tinh - Hoa Phat Steel - Posco - Ton Dong A - TVP Steel	
Shipbuilding & Marine - Austal - HADUCO - Kristian Gehrhard Jebsen - PV Shipyard - Triyards	
Textile & Garment - 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 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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BOSCH

CAW
Central Air Conditioning and Heat Exchangers

MEASUREMENT & AUTOMATION

VEGA

JUMO

optris
Industrial Laser Measurement Technology

KEM
Karlensche Mess- und Prüftechnik GmbH

meister

AMFE
Automatic Measurement Technology

vögtlin
instruments

SCHMIDT
Technology

CANTY
PROCESS TECHNOLOGY

VAISALA

LUBRICANTS

OBERON
LUBRICANTS