

wazzup

04 A good year
Measurement specialist
achieved record high figures

12 Nothing beats know-how
It starts with a question



8 Main Feature

The Purest of Pure

4 What is in the news?

Measurement engineering specialist increases turnover to almost 1.7 billion euros and employs over 10,000 staff worldwide in 2012.



8 Main Feature

Ultrapure water is an important component of many manufacturing processes.



15 How to prevent storage tank overflow?

Overflow prevention systems are a must for obvious reasons but they can be costly, tedious to implement and difficult to maintain if custom-built.



- | | | |
|---|---|--|
| <p>4 A good year for Endress+Hauser
Operating worldwide, the measurement specialist achieved record-high figures in net sales, employment, profits and equity.</p> <p>6 Planes, trains and 'weissbier' in Hanover
Deon Le Roux, External Sales Gauteng, tells <i>wazzup</i> about his trip to Hannover for the Salesperson Awards.</p> <p>8 The purest of pure
Ultrapure water is an important component of many manufacturing processes.</p> <p>10 Conductivity measuring parameter overview
Monitoring electrolytic conductivity is important for monitoring wastewater treatment and controlling cleaning processes (CIP) in the food and pharmaceutical industry.</p> | <p>12 Nothing beats know-how, and it starts with a question
Meet ALICE, a rig built to study steam measurement.</p> <p>14 Evan's Energy Update</p> <p>15 What do you do to prevent storage tank overflow?
Endress+Hauser delivers an unrivaled solution that addresses the entire safety loop.</p> <p>16 Water quality monitoring for longer lifetime of power plants</p> <p>17 Analysis in simple terms
Understanding the in and outs of liquid analysis is no simple task. In each issue of the <i>wazzup</i>, conductivity will be explained in layman's terms for non-experts.</p> <p>18 e-Business</p> | <p>19 Solutions for the loop
Endress+Hauser's range of system components not only covers basic requirements, but also increases plant availability through integrated diagnostic functions.</p> <p>20 Hot? So what?
Innovative thermowell materials examined and tested by Endress+Hauser pave the way to even more reliable temperature measurements.</p> <p>21 <i>wazzup</i> Seminars and School of Process Instrumentation</p> <p>22 Past and future events</p> |
|---|---|--|

A bright future for process automation

Dear Customers and Colleagues

Between Boom and Crisis – this is the title of the presentation of the Endress+Hauser Group financial results for 2012. Nowhere is this more fully apparent than here in South and Southern Africa. Like our global results, 2012 was also another record year for sales by Endress+Hauser in our country and yet we seem to be looking at an uncertain future.

There are certainly many challenges in our immediate future: the steep decline in the value of the local currency; the depth of uncertainty in the mining industry and in the labour market in general; the trend of large multinationals to globally centralise their engineering and procurement. The list goes on.

Coupled to this is the ever-growing skills development challenge in South Africa. Just last month I was on site with a large customer in the mining industry which had lost four technicians who had been through training with us in quite a short time. Although the client was, of course, seeing this fairly negatively, this confirms the tremendous need for skills development. As an industry we need to urgently develop the overall skills base so that our customers have the people with the skills that they need to maintain and develop their processes.

So what is the future of process automation in Southern Africa? The future is bright! The main global mega-trend is that the world population and the population of our countries will continue to grow. The demand for resources, water, power, fuel, mining and the need for food will continue to grow. Can we develop these processes to be more efficient and to consume less energy? These are the challenges for process engineering and these challenges will become more and more important.

These are the challenges that keep us inspired.
These are the challenges we look forward to developing with you, our customers.

With regards,

Rob Mackenzie





The Executive Board of the Endress+Hauser Group (from left): Dr Gerhard Jost (production), Matthias Altendorf (innovation), Pieter de Koning (logistics, IT and organization), Nikolaus Krüger (sales and marketing), Roland Kienzler (HR), Michael Ziesemer (Chief Operating Officer), Dr Heiner Zehntner (legal), Dr Luc Schultheiss (Chief Financial Officer) and Klaus Endress (Chief Executive Officer).

A good year for Endress+Hauser

Measurement engineering specialist increases turnover to almost 1.7 billion euros and employs over 10,000 staff worldwide in 2012.

Endress+Hauser has again enjoyed strong growth in 2012. Operating worldwide, the measurement specialist achieved record-high figures in net sales, employment, profits and equity. Despite ongoing global economic uncertainty, the Group with headquarters in Reinach, Switzerland, expects this positive trend to continue this year.

“2012 was not an easy year,” underlined Group CEO Klaus Endress at the financial results’ presentation on 28 May 2013 in Basel, Switzerland. In some markets sales dropped, but in many others the group recorded growth. “In the end we only just missed our ambitious targets.” Undeniably, a little luck played a role. The company remained largely unaffected by currency influences; developments in the foreign exchange rate even slightly

supported the business. But, above all, Endress+Hauser made the best possible use of the opportunities that the past year offered – despite all the risks.

Endress+Hauser increased net sales by 11 percent to almost 1.7 billion euros. Despite higher depreciation and amortisation, the operating profit (EBIT) almost kept pace, increasing by 10 percent and ultimately reaching

273 million euros. Owing to a higher tax rate, net income rose by only 3 percent to 183 million euros, which is nevertheless a new record.

Development across a wide base

Endress+Hauser showed growth across all regions, with exceptionally good developments in the Americas. "In the United States this was the third good year in succession for us," explained COO Michael Ziesemer, the CEO's deputy. Low energy prices have sparked re-industrialisation in the USA. In contrast, business in China showed disappointing development. This was, as Michael Ziesemer explained, "an unusual experience" after years of dynamic development.

The development of the group was broad-based across all customer industries. The strongest growth was seen in the oil & gas and the power & energy industries, followed by the chemical, food & beverage, life science and water & wastewater industries. Key drivers behind our growth are megatrends such as energy, resources and efficiency, food, water and demography," emphasised Michael Ziesemer.

More than 650 new jobs worldwide

Despite the good figures, according to Klaus Endress uncertainty could be felt throughout the year. "We hired fewer people than we had originally planned," he said. By the end of 2012 Endress+Hauser employed 10,066 people worldwide – 652 more than the previous year.

With the acquisition of SpectraSensors, a US based company that develops, makes and markets laser-based gas analysers, will open up new markets. Endress+Hauser also strengthened its calibration business. A share in the Irish company CompuCal Calibration Solutions secured access to software for calibration management.

Investments reach record heights

At 127 million euros the group's investments have reached a new high. Most of this was spent on expanding production facilities, particularly in Maulburg and Gerlingen, Germany, and Greenwood, Indiana/USA. By no means the biggest but certainly the most important project was a new production facility in Itatiba near São Paulo. Endress+Hauser expects this to have a significant impact on business in Brazil as in the rest of the South American continent.

As CFO Dr Luc Schultheiss explained, the Endress+Hauser Group was able to further strengthen its financial power. Equity was increased by three percentage points to over 73 percent. At the same time the company repaid another 30 million euros in bank loans, reducing liabilities below 10 million euros. Cash and cash equivalents amount to 389 million euros. The exchange rates had hardly any impact on the 2012 financial results.

Ambitious targets for 2013

Endress+Hauser has set itself ambitious targets for 2013. Net sales are expected to grow by 10 percent to almost 1.9 billion euros. For operating profit and net income, the company expects a moderate decrease. This is where investments in buildings and plants, software and IT of a record-high 160 million euros come to bear, as well as

increased expenditure in research and development. 550 additional jobs are to be created by the end of 2013. At present, Michael Ziesemer confirms, figures are slightly "below budget". Whereas sales in China are again showing strong growth, the development on the US market lags behind expectations.

The strongest growth was seen in the oil & gas and the power & energy industries, followed by the chemical, food & beverage, life science and water & wastewater industries. Key drivers behind our growth are megatrends such as energy, resources and efficiency, food, water and demography

Michael Ziesemer

In only eight years Endress+Hauser has more than doubled its net sales. "The opportunities for us have grown, along with the risks," emphasised Klaus Endress. In order to make the company fit for future challenges, sales support has been reorganised at group level. "We don't expect 2013 to be an easy year," stressed Klaus Endress. "The problems which have made our world so insecure and changeable still exist." This was one of the reasons why the change at the top of the company was announced so early. Klaus Endress will move to the Supervisory Board in 2014 where he will succeed Klaus Riemenschneider as president; his successor as CEO will be Matthias Altendorf, currently managing director of the group's largest production center in Maulburg, Germany. Klaus Endress said "We have taken significant steps in terms of organisation, strategy and personnel to set the course that will lead the company towards a successful future."



Klaus Endress and Matthias Altendorf

Planes, trains and 'weissbier' in Hannover

Deon Le Roux, External Sales Gauteng, tells *wazzup* about his trip to Hannover for the Endress+Hauser Group Salesperson Awards.

"I achieved third place overall in the Endress+Hauser Group for the sales progress contest. The increase in incoming orders for 2012 was compared to the average of the two previous years' and I achieved 425%. In July we achieved 563.7% of MRO budget. We were recognised for our achievements and we were off to Hannover for the awards. Our flight to Frankfurt was to leave OR Tambo that Friday evening, however I was bumped off the flight and told that there is no more space on the plane, even though it was still two hours before check in. The reason was that there were a lot of delayed and cancelled flights because of bad weather and snow in Europe, so there was a back-log. I managed to get a flight for the next evening, and lost a day. At least the airline apologised and gave me a free return air ticket to fly anywhere in the world. What a bonus.

I arrived in Frankfurt on the Sunday morning and took the train to Soltau Nord where we stayed in the Hotel Park Soltau. While there we did a bit of sightseeing and travelled to places like Buchholz (Nordheide) and Hannover hbf. We really had a pleasant stay and met a lot of other Endress+Hauser colleagues from places like the UK, the Netherlands and Venezuela.

On Tuesday we travelled back by train to Hannover for the Hannover Fair and Awards-giving dinner that evening. The fair was amazing! It was much bigger than expected. Some of the best stands were obviously Endress+Hauser, Siemens (who again tried their hardest to steal the show) and perhaps IFM. We had our Awards dinner that evening and met Mr Klaus Endress, with a few other important colleagues.

Our return bus was delayed after the dinner so we decided to take the taxi back to the hotel. The trip was about 85km and what a nervous trip this was. I had to hold onto my seat when the taxi driver exceeded speeds of close to 200km/h in the autobahn sections. Not so nice when you're not behind the steering wheel!

The next morning we travelled back to Hannover for our flight to Zurich. We arrived at 11:20am and then took the train to Basel for our Production Center tours. In Basel we booked into the hotel Schweizerhof and then took the tram to PC Flowtec (Reinach) where we had a quick factory tour with Dominic Bürgi.

That night Dominic took us out for dinner and around the town in Basel to have a look at some of the nice pubs. At last we could enjoy a few Weissbier! It is really a great little town and the people are soccer fanatics. Everywhere we went they had big screens watching the soccer.

The next morning we took the S6 train to Maulburg for our next PC visit/tour, which was factory tour with Hubert Schmidlin. The PC tours were even better than expected. I really got a clearer picture of how the PCs operate. The quality control and timing was outstanding. Everything worked and the production was spectacular – everything was so precise. I just wish we had some more time to spend at the factories.

I enjoyed every minute of this trip. Now I must achieve more to be able to go again!



Deon Le Roux and Maygon Reddy with their Sales Award and members of the Executive Team



Join Endress+Hauser on a comprehensive training tour kicking-off at Hannover Messe



This amazing training opportunity will kick-off at the world renowned Hannover Messe (previously known as Interkama). The nonstop learning and networking continues south visiting various Endress+Hauser production centres in Germany, France and Switzerland, ending at Basel University. Topics of discussion will include nanotechnology, developments in liquid and solid level measurement, various flow principles, fieldbus technology, as well as advances in analytical sensors and transmitters.


**HANNOVER
 MESSE**

Date: 8 April to 17 April 2014 (including travel time)

Register: For more information and to register visit
www.za.endress.com



Book your place today to take advantage of this beneficial learning and networking experience of a life time!

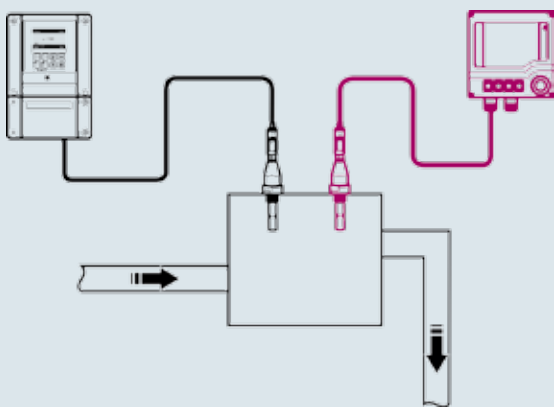
Endress+Hauser (Pty) Ltd
 Tel: +27 (0) 11 262 8000
 Fax: +27 (0) 11 262 8062
info@za.endress.com
www.za.endress.com

Branches: Johannesburg, Cape Town, Durban,
 eMalahleni, Port Elizabeth
Satellite offices: Klerksdorp, Northern Kwa Zulu
 Natal, Pretoria, Richards Bay, Sasolburg

Endress+Hauser 
 People for Process Automation

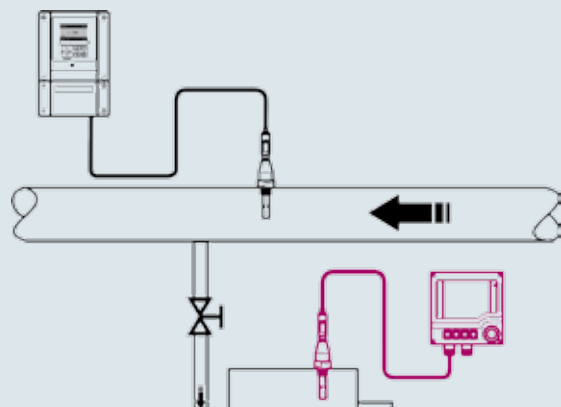


Reference calibration with flow cell (left) or bypass (right)



The reference sensor of the Conducil is installed in the flow cell immediately next to the unit under test. This test setup is preferred for use when the process is opened/interrupted at regular intervals (e.g. due to maintenance intervals).

- Advantage** Identical measuring conditions for temperature and flow.
- Disadvantage** Opening of the process.



The reference sensor is installed in a bypass of the process and supplied with process medium via a valve. Preferred for use when the process cannot be opened up.

- Advantage** Calibration while the process is running.
- Disadvantage** Measuring conditions such as temperature and flow can vary in the reference calibration.

The purest of pure

Ultrapure water is an important component of many manufacturing processes.

Steam is used in just about every process where heat or mechanical movement is required like food, petrochemical and power generation.

The quality of the steam will determine the life expectancy of a turbine for power generation. Dissolving impurities in the water before it turns into steam will eventually destroy the turbine either through corrosion or deposits that will upset the balance of the turbine. Water is the key to run efficiently.

In the pharmaceutical industry, ultrapure water is an important part of manufacturing medications, injection solutions and infusion fluids. The quality of the water is a prerequisite for the quality of the pharmaceutical products. The semiconductor industry also uses ultrapure water in manufacturing microchips.

What is ultrapure water? Natural water contains a wide variety of components such as salts, organic substances and microorganisms. Ultrapure water, on the other hand, contains virtually no foreign substances. The labour intensive manufacturing process uses reverse osmosis or distillation, which is subsequently combined with other purification methods such as the ion exchanger, ultrafiltration, electrode ionization, degassing processes, etc. The most important parameter for determining the purity of the water is conductivity.

The production of ultrapure water is subject to various standards and recommendations, including those of the ASTM (American Society for Testing and Materials), USP (United States Pharmacopeia) or Ph. Eur. (Pharmacopoea Europaea), which require corresponding regular quality control. This is where the Conductal CLY421 comes into play.

The Conductal CLY421 gives you the ability to carry out mobile reference calibration, traceable to all important standards. Therefore, it is not important whether the unit under test is a digital or analog conductivity sensor.

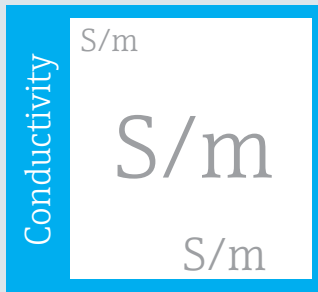
Water with conductivity levels below 20 $\mu\text{S}/\text{cm}$ will require a reference calibration with a closed systems, as it absorbs CO_2 when in contact with air. Carbon dioxide forms carbonation in water and thus increases the conductivity of the solution. The Conductal CLY421 and the corresponding flow cell are the optimum solution.

Conductal CLY421 is the ideal tool for offering customers calibrations as a service!

i Service Tip
Take care of any leaks on the connection tubing as water that gets out will allow air to go in and this will impact the reading.



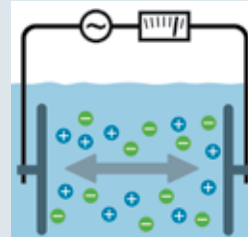
Conductivity measuring parameter overview



Description

Monitoring electrolytic conductivity is important for monitoring wastewater treatment and controlling cleaning processes (CIP) in the food and pharmaceutical industry. In the chemical industry, conductivity is used to determine the concentration of acids and bases.

Conductive measuring principle



- An altering voltage is applied to two electrodes located in the medium. The conductance value is calculated according to Ohm's law.

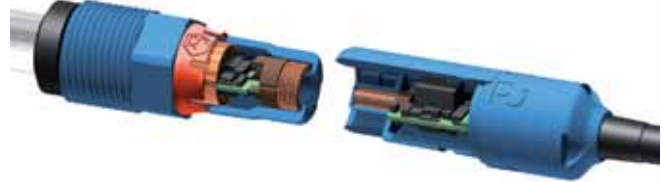
Sensors with Memosens technology

Liquid analysis makes great demands not only on the sensor element but also on the transmission of the measured value from the sensor to the transmitter. When measuring pH, low currents and very high sensor internal resistances additionally require a high-impedance connection to the transmitter. Moisture in the connection can change the measured value and may even result in measurement failure.

The Memosens technology revolutionises the safety of data transfer by digitalising the measured value in the sensor and transferring it, to the transmitter without a contacting, and thus moisture-sensitive, connection. The jump in technology to a new generation of sensors has additional advantages and eliminates general limitations of the technology in place to date.

Memosens makes the sensors digital with integrated data storage

Sensors with Memosens technology save the current calibration data and other information which can be used for look-ahead maintenance, such as hours of operation, maximum and minimum measured values and maximum and minimum temperature. When the sensor is mounted, the calibration data are automatically transferred to the transmitter and used to calculate the current value.



The result:

- Measuring point maintenance is no longer based on individual issues identified but rather all relevant sensor data are used
- The current application of the sensors can be made to depend on the previous history.

An unestablished connection between the sensor and transmitter is actively displayed - the first really definite connection

Digital measured value transmission automatically results in an error message if the signal flow is interrupted, regardless of whether the sensor or measuring cable is no longer working properly.

The result:

- The availability of the measuring point is dramatically increased and ensured
- Automatic sensor detection allows for unproblematic sensor replacement



1 Robust sensor Indumax CLS50/50D

Concentration measurements for acids, bases and salts, product monitoring, wastewater treatment; excellent chemical resistance properties thanks to PEEK or PFA; up to 125 or 180°C; Ex approval



2 Hygienic sensor Indumax CLS54

Food and pharmaceutical industry; certified hygienic design: FDA EHEDG, 3-A, USP <87> and <88> class VI; part of the Smartec CLD134 measuring system



3 Pure and Ultrapure water sensor Condumax CLS15D/CLS15

Monitoring of ion exchangers, reverse osmosis, distillation and chip cleaning; electropolished electrode surfaces; Ex approval

Inductive measuring principle



- Based on an alternating magnetic field that induces an electrical current in the medium which generates a magnetic field in the secondary coil.

Applications



- Monitoring of WFI (Water for Injection) water in the pharmaceutical industry
- Monitoring of cleaning processes
- Monitoring of boiler feedwater
- Control of water treatment

Transmitters



Liquiline CM44

The multiparameter and multichannel controller is suitable for all Memosens sensors and digital sensors with Memosens protocol.

Advantages and benefits

- One controller for all parameters – any sensor combination is possible
- A simple commissioning and integration into process control systems due to HART, PROFIBUS DP and Modbus communication
- Comfortable configuration and check of the device with any web browser
- Easy operation with uniform and easy-to-understand menu guidance for all parameters
- Saves time due to preconfigured software and easy sensor replacement with precalibrated Memosens sensors
- Modular concept for a wide variety of applications
- Standardisation components reduce maintenance and storage costs

Application



Power plants:

Conductivity measurement makes it possible to monitor the quality of the boiler feedwater.

Solution:

- Conductivity panel with
- 2 conductive conductivity sensors Condumax CLS15D
 - 2 Liquiline CM42 units
 - RMM621 computer module

Benefits:

- High degree of safety due to necessary temperature compensation for ultrapure water
- pH calculation based on differential conductivity (in accordance with VGB-R 450L guidelines for operators of large power plants)



4 Hygienic sensor Condumax CLS16D/CLS16

Pharmaceutical industry, WFI (Water for Injection); Monitoring of ion exchangers, reverse osmosis, distillation, FDA, EGEDG and 3A certificates; Ex approval



5 Drinking water and wastewater Condumax CLS21D/21

Medium separation; potable water treatment, wastewater treatment; measuring range up to 20mS/cm; Ex approval

Nothing beats know-how, and it starts with a question

This headline may not immediately grab your attention but the explanation will, I hope, keep you reading.

By Mick Carr
Senior Consultant Gas Measurements

My professional title is Senior Consultant (your first clue to this article's direction) working out of the Flow development and production centre in Reinach, Switzerland. I recently had the pleasure of visiting South Africa where I conducted a number of internal training sessions, met with a wide range of customers and finally presented a technical paper at an SAIMC meeting held in Secunda. This was a personal highlight because I met like-minded engineers with a genuine thirst for know-how.

On my return to Switzerland I received a pleasantly worded letter from my colleagues in Africa requesting that I prepare an article for the *wazzup* newsletter, and the letter began: "Hi, *oubaas!*" (your second clue).

For the third and final clue you need to know that I have worked in the process measurement and control world, in one capacity or another, for well over 40 years and for the past 30 years my focus has been exclusively in flow. By now you should have guessed that I am heading into retirement. The fishing rods are lined up, my biltong cutter is on order and, finally, my wife for these past 40+ years, has learned not to disturb me when the footie is on. Then the question: "Would you be interested in steam measurement and working with a team to develop the E+H know-how?" From that day to this, retirement has faded from my focus, the fishing rods gather dust and I buy my biltong pre-packed!

Over the past few years Endress+Hauser has built and commissioned a steam rig exclusively for research purposes, affectionately referred to as ALICE. Alice is situated close to a University in Windisch, Switzerland and has more doctors poking and prodding her classical lines than you have in Chris Hani Baragwanath Hospital. Engineering doctors, of course.

The efforts from the university, coupled with the drive and endeavours of the research and development team, have one common objective: to understand what happens, in a closed pipe, with superheated and dry saturated steam. The rig itself allows us to change process conditions: pressure, velocity and line size while running steam from superheated to dry saturated, and then wet steam flows with a dryness fraction down to 0.7. With the minimum of effort the team can exchange the meter under test (MUT) from one measurement principle to another to see and understand what happens when conditions change, when installations are perhaps not ideal, or any number of permutations that represent day-to-day real-life conditions i.e. heat loss or failing water traps or even boiler carryover.

What is tremendously exciting is that ALICE gives up her secrets freely. It is now possible to vary conditions and at the same time view the physical change while studying the reaction of a meter under test and its signal output. By manipulating the steam quality it is possible to visualise



Meet ALICE, a rig built to study steam measurement



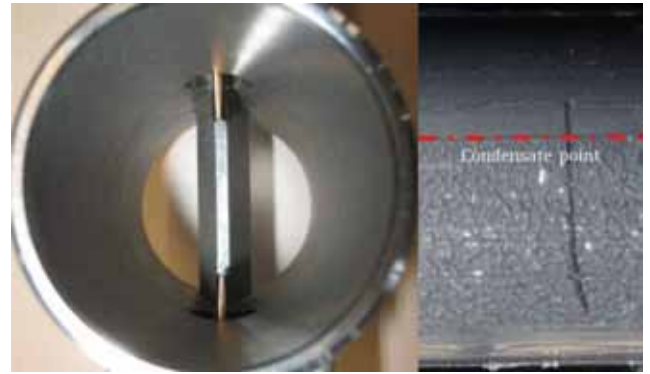
Steam and condensate flow

the impact within the pipe and on the instrument, and our know-how grows from strength to strength.

I will leave you with one final image of ALICE, to demonstrate what is possible and what the future holds. The picture below shows the bluff body and the two DSC sensors that make up a dual-sense vortex meter from Endress+Hauser. This is what the steam would encounter as it flows within the closed pipe. More importantly, today we can also visualise the view as seen by the meter under test.

If you look carefully to the right of the meter you will see the condensate as it too flows down the same pipe. If we vary the amount of condensate (dryness fraction) or the steam velocity then the water that is driven along the walls of the pipe will rise or fall accordingly. Think of water being sprayed on a car windscreen. Vary the downfall or car speed and you vary what a driver has to see through. Now we can begin to understand, dependent on your choice of meter and its installation, what impact it will have on your meter's performance and accuracy.

One of the immediate benefits of the Endress+Hauser



Effects of condensate flow

vortex meters (shown here) is that the new generation being launched in the latter half of 2013 will have wet steam detection and can therefore intelligently inform when qualities levels drop.

My stay in South Africa was constantly challenging. I got to meet old friends and was given time with genuine levels of interest in Endress+Hauser know-how. I can only hope the quality and standard matched expectations, and in some way better prepares us for the metering demands of today.

No letter from Switzerland would be complete without a personal note to the men and woman that I met at the SAIMC technology evening held in Secunda. Meetings such as these, once common, are now sadly fading. My message to everyone that attended is to keep it up, keep striving and one day, if you are very lucky you may get the question that transforms a gradual slide into retirement into a world of challenge and excitement!

It is my intention to continue the learning process and, if invited, maybe get to see you next year. Now Mr Endress, about this retirement thing...



Do either one of these two look ready for the long fishing trip?

Evan's Energy Update

Introducing the new Smart Scale Energy Solutions

In the many columns I have written in the *wazzup* magazine, I have focused on solutions that are relevant to the end-user in order to save energy on their site. This issue I want to briefly introduce a new package offered by Endress+Hauser in the energy efficiency arena. These are the Smart Scale Energy Solutions. In short, these are packaged solutions to cover most relevant process energy efficiency applications.

In almost every process application, at least one but generally several of the applications in the figure below is relevant. Identify which of these your site has inherent in the process and for each one Endress+Hauser has developed a tailor-made solution. In any industrial process or plant, owners and operators want to ensure that their investments are delivering optimal functionality, efficiency and, of course, profit. Energy is a relevant cost and efficiency factor in more or less every industry. But there are industries which focus more on energy efficiency than others. Therefore with the Energy Solutions Business and especially with Smart Scale Solutions we focus on the food & beverage industry, the chemicals industry and the life science industry. But this doesn't mean that all the other industries are not relevant. This concept can also be applied to paper, metals, steel, cement, glass and many others.

The basis of the Smart Scale Energy Solutions includes the components described in the below figure, but the key component is the Memograph M energy data manager. As can be seen, this unit provides the basis for the Smart Scale Energy Solutions, but communicates to higher systems where necessary. FDM (Field Data Manager) is a software platform used to develop reports to integrate the Memograph M data with any higher or horizontal systems.

Smart Scale Energy Solutions are:

- Energy application-oriented (e.g. steam boiler efficiency, leakage detection).
- Focused on relevant KPIs to measure the performance of an energy application or system and monitor it constantly.
- Based on Memograph M energy data manager.
- With small energy reporting via FDM (curves),
- Connectable to high level systems via BPI Middleware
- Scalable and expandable according to customer needs.

Finally, some compelling reasons to consider a Smart Scale Energy Solution:

- Lower initial investment costs for end customer: Compared to a complete energy management system, this is a shorter decision process.
- To target customers who don't need a complete energy management system: Mid-size companies or companies, which have already software implemented.
- Gain competitor advantages: Most competitors offer only complete energy management systems
- Customer can grow with Endress+Hauser: With scalable solution packages adapted to the individual demand.
- Get "a foot into the customer's door": To start with a smart-scale package and show the Endress+Hauser competences.
- Portfolio segmentation: To deliver the right solution according to customer demands.



Enquiries:
Evan Dent:
Strategic Business Manager
evan.dent@za.endress.com

Measuring location:	Energy Applications (based on Memograph M)
Display on measured values:	On measuring device and Memograph M
Visualisation:	Typically on site and within FDM
Applications:	Generation, Distribution and Consumption of, for example: <ul style="list-style-type: none"> ▪ Steam ▪ Compressed air ▪ Heating ▪ Cooling ▪ Electricity ▪ And others (e.g. technical gases)
Data integration:	<ul style="list-style-type: none"> ▪ Export in higher or horizontal systems (e.g. SAP) ▪ Import of measuring data into Memograph M/FDM
Energy Key Performance Indicators (EnPI):	Application-oriented (e.g. boiler efficiency, COP, SEC, leakage share)
Data storage:	Yes
Energy reporting:	Energy values (e.g. KPI) as curves, data or reports (in a higher level system)

What do you do to prevent storage tank overfill?

Endress+Hauser delivers an unrivaled solution that addresses the entire safety loop.

Storage tanks in the oil and gas industry are used for environmentally damaging liquids which could cause serious incidents including personnel injuries, if not properly monitored. A simple faulty fuel gauge can fail to alert operators that fuel storage is being filled to an alarming high level, causing large quantities of petrol to overflow. As a consequence, vapor clouds are formed leading to explosions and fire that can last for days. Overfill prevention systems are a must for obvious reasons but they can be costly, tedious to implement and difficult to maintain if custom-built.

A pre-configured solution package reducing commissioning time and maintenance costs

Endress+Hauser's pre-configured solution package reduces project costs by up to 20% and lowers implementation risk as it is based on a standard approach with repeatable designs that have been tested and documented. The system was developed together with Rockwell Automation and resulted in a complete and integrated solution able to address the entire safety loop, from measuring and monitoring to correcting elements. Devices are pre-integrated which means there is only a need for on-site parameterising, but the whole solution itself is modular and can be easily extended.

Compliance with industry best practices, API 2350 and IEC 61511 standards

Endress+Hauser not only deliver the market standard compliance but also the following:

- Scalability to your needs
- Suitability for manual and automated operated facilities
- Up to SIL 3
- Display of detailed warning and alarm messages on both text

- display and operating panel
- Possibility of FailSafe High Warnings and High Alarms
- Integrated automated proof-test procedure (patent pending!)
- Automatic recording of all events for better transparency and traceability

- UPS for 30 minutes operation
- Free tank selection by the user to simplify alarm assignment

Enquiries:

Ivan De Waal
ivan.dewaal@za.endress.com



Demo unit Overfill Prevention System

Water quality monitoring for longer lifetime of power plants

Minimise corrosion and scaling with the SWAS (Steam / Water Analysis System) solution.



Water quality is a crucial factor for avoiding corrosion and scaling of turbines, boilers and pipes in power plants. Particles in the boiler feed water and steam shorten the lifetime of the turbines, leading to costly repairs or even replacement. Additionally, bad water quality leads to inefficient processes and increases maintenance efforts.

Modular system for all water and steam cycles of your plant

Our SWAS panels monitor the water quality in a power plant and keep the integrity of the water steam circuit safe at all times. Critical parameters such as pH, conductivity or sodium are reliably measured to prevent the accumulation of precipitation in heat exchangers, boiler pipes and superheaters. As a result, you get increased process control, minimised downtime and longer operational life for the plant. Moreover, our SWAS solution is modular, scalable and customisable to all needs.

What is unique about the solution?

- Application-specific, customised solution
- High quality instrumentation for increased plant safety and efficiency

- Suitable for use with Memosens digital technology for easy calibration, reliable measurement and user-friendly maintenance
- One transmitter for all parameters possible with Liquiline multichannel controllers
- Modular, scalable and easy to retrofit
- Reliable and safe operation according to various industry standards

What a customer said about it

i "Endress+Hauser already offers the infrastructure for changing demands within modern power plants with its modular system (multivariable multichannel transmitter with Memosens and modular panels). Let it be base load, mid or peak load adaptation, or upgrading for additional parameters, modular means flexible and it implies Endress+Hauser. M. Sener Guenes, Hitachi Power Europe GmbH, Lead Engineer: Chemistry

Analysis in simple terms

Understanding the in and outs of liquid analysis is no simple task. In each issue of the *wazzup*, a term will be explained in layman's terms for non-experts. In this issue conductivity will be used.

The term "conductivity" is somewhat confusing. No one would actually want to conduct electricity using a liquid. What we really want from the conductivity value is a statement about how pure the water is.

If the water is "contaminated" by salts, acids or bases, it contains electrically charged particles – "ions". The greater the impurity, the more of these there are. Practically, ions conduct electricity; they pass it along, so to speak, from one to another. In order to determine how many ions are in the water (in other words, how contaminated the water is), voltage is applied to the liquid and the amount of current flowing is measured. The transmitter uses this to calculate the conductivity value.

But beware: With concentrated liquids this value can be ambiguous. At first the current flow rises with an increasing number of ions. At reaching what is called the "reversal point", however, there are so many ions present that they are in each other's way. The current

flow, and with it, the conductivity value, decrease again, although the impurities in the water actually increase. Then a conductivity value can signify two possible ion concentrations – one low and one high. For this reason the rough measuring range should be known, so that the conductivity value can be clearly and unambiguously assigned.

Conductivity measurements are needed in:

- The life sciences industry, when monitoring ultrapure water for production of vaccines
- Water desalination plants, to determine the salt content of the water (salts in water decompose into ions)
- The chemical industry, for the inline quality control of product flows
- The food & beverage industry, for measuring the phase separation after CIP/SIP procedures
- The power & energy industry, for monitoring the purity of the boiler feedwater.



i From the conductivity it is also possible to calculate the concentration of an acid or base. Inductive conductivity sensors are always used for this application, since caustic acids or bases would attack the exposed electrodes of a conductive sensor.

Enquiries:

What would you like to have explained in simple layman's terms? Drop me a mail at jan.swart@za.endress.com

Current flow for the conductivity measurement. For the conductive conductivity measurement (left), the current flows between two exposed electrodes. The shape of the inductive conductivity sensors (right) comes from two internal coils, which induce the current flow. Here there is no direct contact with the medium.

e-Business

Open catalogue interface (OCI) ensures quality of data transfer

Lanxess South Africa speeds up order processing by e-procurement

The integrated e-procurement solution offered by Endress+Hauser has enabled Lanxess to optimise our ordering process for our instrumentation.

The result is less manual entry, more transparent processes, and more flexibility thanks to the comprehensive functionality of the Endress+Hauser online shop. Another advantage is that data maintenance and updates are no longer an additional expense. E-procurement enables Lanxess SA to 'buy better' and Endress+Hauser to 'serve better'.

"Lanxess SA wanted to enjoy globally negotiated group prices as well as to have access to a catalogue which would enable all our local sites to view Endress+Hauser products, specifications and configure own products. We also wanted to reduce our order creation cost at the same time increase our efficiency," explains Chris Jama, Technical Procurement Specialist.

How it works

In Lanxess' case, a flexible solution in the form of an OCI was offered. OCI stands for Open Catalog Interface – it is a way of integrating external product catalogues into a customer's procurement system, often known as an SRM (Supplier Relationship Management) system. SRM systems

help to optimise procurement operations by enabling a 'source to pay' process.

The Lanxess e-procurement solution uses the full functionality of the Endress+Hauser online shop. In accordance to their specifications, Lanxess will always configure exactly the right device to suit their application. The configuration is checked automatically, in order to prevent incorrect entries.

Using the Endress+Hauser online shop ensures that the customer will always have access to updated data. The product information comes directly out of the SAP system and therefore is up to date and a reliable source. The shopping carts compiled are transferred back into Lanxess procurement system.

On-site training and support meant that users could quickly familiarise themselves with this new purchasing procedure.

About Lanxess

Speciality chemicals group Lanxess is one of the world's biggest suppliers of chrome ore for the chemical industry and a leading producer of chrome chemicals. In South Africa Lanxess is the only company to handle the entire value chain from the chrome ore to the leather tanning materials. Currently Lanxess is represented in

South Africa with more than 1200 employees. The company has chrome production sites in Rustenburg, Merbank and Newcastle as well as a rubber chemicals production facility in Isithebe.

Enquiries

If you are interested in an integrated solution, please contact Deshini Govender on 011 262 8021 or deshini.govender@za.endress.com so we can help you make your purchasing easier and quicker.



Chris Jama, Lanxess South Africa.

Endress+Hauser's range of system components not only covers basic requirements, but also increases plant availability through integrated diagnostic functions. They also optimise processes by direct front-end control, or manage energy usage with tested calculation methods.

Solutions for the loop

accessories to complete your order

E-direct

Motor Limit Values

RMA42

always in stock

- Dual input
- Math capability
- Alarm functionality



Supply



RIA14

always in stock

- Digital Field Indicator
- Loop powered
- One Channel



RSG30

- Local Display
- Data acquisition
- Ideal for fieldgate applications using Ethernet

always in stock

Record (paper/paperless)

RIA 45/RIA46

- More versatile than any other display



always in stock



always in stock

RB223

- Protects back-end instruments from electrical interference



Isolate (ex-barriers)



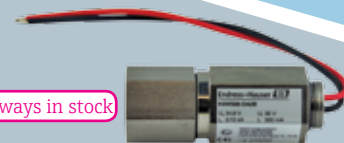
always in stock

RNS221

- Stabilises power supply

Supply

always in stock



HAW569

- Protection for all field transmitters
- Essential for crucial devices

Protect (surge protection)

Did you know?

For an overview of Endress+Hauser's complete range of system components visit www.products.endress.com/systemcomponents.

All E-direct products can be purchased easily from our online shop using the E-direct website: www.za.endress.com/e-direct.

Hot? So what?

Innovative thermowell materials examined and tested by Endress+Hauser pave the way to even more reliable temperature measurements.

Many materials can only withstand the heat and other process conditions for a limited period. Numerous process conditions such as corrosive gases, turbulence or abrasion reduce the lifespan of various components of a thermometer: The simultaneous effect of corrosion and abrasion is often the root cause of measurement failure. For users this means that they frequently need to replace thermocouples at critical measuring points. Such measuring points increase the workload of the maintenance departments and drive up costs.

Longer operating times reduce the total cost of ownership considerably. Temperatures of 1000°C and higher are required for glass, cement production and lime burning. The actual temperatures are of central importance to control and regulate the furnaces. If the required degree Celsius is not reached and maintained at a stable level, this can impact the quality of the end product. Measuring temperatures above 800°C places particularly high demands on the measuring technology used.

In recent years, materials research has provided many new materials - both in the form of metal alloys and ceramic substances. Many of these have been examined and tested by Endress+Hauser. This has resulted in thermowells that withstand extreme process conditions far longer than previously thought possible.

The new thermowell materials have been tested in applications where lifespan usually range from one day to just a few weeks. This is particularly the case in cement production or incineration plants. Frequently, conditions here are not only very harsh but also often change suddenly and unpredictably. The

new developments have resulted in a considerable improvement in the thermowell lifespan. The thermowells both provide mechanical protection for the thermocouple and prevent the penetration of gases that initially cause temperature drifts and then unit failure as a result of corrosion. Endress+Hauser incorporated the research results into the TAF

The simultaneous effect of corrosion and abrasion is often the root cause of measurement failure. For users this means that they frequently need to replace thermocouples at critical measuring points. Such measuring points increase the workload of the maintenance departments and drive up costs.

high-temperature line. Given the numerous possibilities of combining TAF11, TAF12, TAF16, TFSR11, TFSR12 and TFSR16 devices the ideal thermometer can be found for every application. The best possible thermowell material makes the process more reliable, accurate, manageable and stable over the long term. The advantages this affords are obvious: Maintenance costs are cut and product quality, process safety and safety at work improve.



Endress+Hauser's New Calibration Rig



ISO9001-2008 requires quality control and traceability of re-calibrated flow meters at regular intervals and thus Endress+Hauser has invested in a new calibration rig, based at our Johannesburg office. The calibration rig is designed to accommodate a wide range of diameters (from 8 mm to 100mm) and uses four master meters (8mm, 25mm, 50mm and 80mm). These master meters are calibrated, once a year, on an ISO/IEC 17025 accredited Calibration Facility in Switzerland.



Customer devices calibrated are issued with a calibration certificated, traceable to the ISO 17025 International Standard, thus ensuring traceability of the calibration results to national or international standards via an uninterrupted "chain of proof" of comparative measurements and calibrations. Furthermore, only technicians who have gone through rigorous calibration training are assigned to the calibration rig.

Endress+Hauser Group Strategic Account Management Team Award 2012



Endress+Hauser Group Strategic Account Management Team Award 2012

We would like to congratulate Evan Dent on his outstanding achievement as part of the Strategic Account NESTLE team. Your continuous engagement with key account customers has contributed to our success and development of our company.

Thank you for your continued commitment and your continuous support.

The official Awards Ceremony was held on 9 April at the Hannover Messe, Germany.

wazzup Seminars

'wazzup' means "what's up?" i.e. the latest Endress+Hauser developments or updates applicable to our industry. These informative seminars could cover specific product topics, product launches, industry related topics or even specific applications.

The **wazzup** seminars will not only provide a platform to exchange information but also the opportunity to network with colleagues in various industries.

Seating is limited to 20-40 customers and the seminar is between 2 and 3 hours long.

16 September	Cape Town	Flow Innovation: Proline Simply Clever Technical complexities in steam measurement
19 September	Durban	Flow Innovation: Proline Simply Clever Technical complexities in steam measurement



Steam/gas measurement seminar:
23 April 2013 (Johannesburg)



Advanced Temperature Solutions: 27 June 2013 (eMalahleni)



School of Process Instrumentation

The purpose is to 'educate or transfer knowledge' while earning **Continuous Professional Development (CPD) points**.

The one-day event is focused on technology, application or solutions including a theory and hands-on component.



The school's sessions will be very focused and application-relevant – addressing the most pertinent needs of the industry. Seats are limited to 30 per day to ensure maximum learning and individual attention.

18 September	Johannesburg	Master the growing complexity of waste water plants Learn how to optimise your plant processes and manage your instrument assets to drive down your running costs of your plant. Also how to improve and maintain your Blue/Green Drop quality.
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Advanced Temperature Measurement: 26 June (Benoni)
Building your own thermocouple

Enquiries

- To register for any of the advertised events, please consult our website: www.za.endress.com
- For further information, please contact Hennie Blignaut:
Tel: +27 (0) 11 262 8007
Cell: +27 (0) 82 330 4779
E-mail: hennie.blignaut@za.endress.com

i Future Events

8 August	Richards Bay	SAIMC Technology Evening
14 August	Johannesburg	SAIMC Technology Evening
14-16 August	Emperors Place	Rockwell Automation University
22 August	Port Elizabeth	Control Roadshow
5 September	Vaal	SAIMC Technology Evening

Please consult our website www.za.endress.com for more information.

i Past Events

Process Expo 2013



Next Level Launch





BBBEE

- ✓ Community Benefit
- ✓ Equal Employee Benefit
- ✓ Client Benefit

Compliant

Contact

Endress+Hauser (Pty) Ltd
S Commerce, Crescent West
Eastgate, Ext 13, Sandton

Tel: +27 (0) 11 262 8000
Fax: +27 (0) 11 262 8064
info@za.endress.com
www.za.endress.com

Endress+Hauser 
People for Process Automation