

Squaring up

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**CHEMICAL
ENGINEERING**
A Special Advertising Section
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**European CPI firms
get to grips with a new currency**

to the **€**uro



Europe's new money

Europe has a new currency: the euro. This Special Advertising Section looks at how monetary union will affect European CPI companies, from petrochemical giants to small equipment manufacturers

It really happened. On 1 January 1999, 11 of Europe's leading nations introduced a single European currency. The euro, currently worth around \$1.13, has got off to a good start and is holding its own in the international money markets.

We can already trade and open bank accounts in the new currency; on 1 January 2002 we will have euro notes and coins too. Later the same year, the national currencies of the euro nations will cease to exist.

The "in" countries are Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain. "Out", at least for the present, are Denmark, Greece, Sweden and the U.K.

So what difference will the euro make? In this CE Special Advertising Section we look at what European economic and monetary union (EMU) will mean for the chemical process industries (CPI) both within and outside Europe.

On this page Claude Culem explains why the European Chemical Industry Council (CEPIC) favors monetary union. By eliminating the costs associated with exchange-rate fluctuations, EMU will make it cheaper to do business abroad, and easier price comparisons across Europe are expected to reduce prices of commodity chemicals. Below, other experts put in their views. As the French say, *vive l'uniformité!*

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Cover photo: Chematur Ecoplanning Oy

Good news so far, but don't stop harmonizing

Lower costs and greater price stability make EMU good news — but Europe's industry needs even greater political unity, says Claude Culem of CEPIC

From the outset, CEPIC and the European chemical companies it represents have supported the goal of European economic and monetary union (EMU). The introduction of the euro on 1 January 1999 consolidated the European Single Market and is already helping to improve the overall business environment. EMU is a major stimulus for growth and international competitiveness in Europe's chemical industry, and we welcome it warmly.

By eliminating exchange risks within euro-land, EMU enables companies to save on hedging costs. This is likely to stimulate cross-border trade and investment, especially by small and

medium-sized enterprises. With no room left for currency fluctuations and adjustments, prices in the different euro-states will match more closely than in the past, and prices on the whole should be more stable and predictable. Easier price comparisons will increase competition and push prices down, the more so for products enjoying little or no differentiation. As far as the chemical industry is concerned, this effect will be felt mainly in commodity chemicals.

The growing prominence of Europe's new currency, the euro, on



Culem: a warm welcome for the euro from CEPIC



Euro-business: ICI Petrochemicals' site at Wilton, England, now has the capacity to do business in euro. Whether the U.K. is in or out of EMU makes little difference to global CPI companies (see p80E-6 for more about ICI's approach to EMU)

the international scene is also expected to benefit industry. As a loan-denominating currency and an international means of payment, the euro will facilitate international trade by sheltering firms from much of their exchange-rate risk. By reducing uncertainties related to currency movements, the euro will make the task of corporate planners easier. A few people in the chemical industry already




dream of the day when oil prices are quoted in euro!

The European Central Bank is committed to a monetary growth target aimed at keeping inflation well under control. The euro should therefore be a strong and stable currency, enjoying the confidence of economic operators. The ensuing attractiveness of the euro as a reserve currency will help Europe's financial markets, and the cost of capital should fall as a result of wider and more liquid financial markets. Companies raising money for investment, however, will continue to find it easier and cheaper to do so in their own currencies. The share of bonds in corporate liabilities is due to rise, at the expense of dearer bank loans.

EMU is a major step towards a true Single Market in Europe, but we are not there yet. Corporate taxes and excise duties on energy, for instance, are not yet harmonized across the different Member

States of the European Union, so we still have counter-productive tax competition. Different Member States also have different degrees of rigidity in their national labour markets, and different burdens of social legislation.

True economic convergence and cohesion will need additional actions on top of the existing stability pact which limits national budget deficits. Now that they have abandoned their monetary sovereignty, the euro-states must make sure that their labour markets function in a more flexible way. We also need further harmonization of national policies, especially in taxation, state aid, standardization and energy supply. 

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Systems and philosophies for working in euro

Veronika Reissinger of management consultancy PricewaterhouseCoopers considers the practical implications of the euro transition for European CPI companies



Reissinger: the euro is a big opportunity, but mistakes could be fatal

Every business adapting to EMU and Europe's new currency, the euro, will have to consider a whole range of strategic and operational issues. By handling EMU effectively, companies in the chemical process industries (CPI) have a big opportunity to improve their competitive position. But getting it wrong could be fatal.

The advantages of EMU are clear: no more fluctuations in exchange rates, no more currency conversion costs, and increased security for investments. The trading figures for just one country, Germany, show how significant these advantages are likely to be.

Chemical companies in Germany send more than 44% of their exports to countries which have already joined EMU. The same countries supply more than half of Germany's imports of chemicals, and house more than 40% of the plants built by German firms abroad.

Careful and timely preparation in the run-up to EMU has been a prerequisite for survival, let alone increased competitiveness. As an example, marketing and sales departments have had to decide whether they should have just one price list, giving prices in both euro and national currencies, or separate lists. Should business partners have the option to decide whether or not to be invoiced in euro?

According to most management consultants and industry federations, companies should by now at least be able to handle transactions with third parties in both national currency and euro. Some companies have tried to be more progressive and "European" by urging their business partners to work only in euro right from 1 January. Other companies, especially SMEs, may have no choice but to adapt to the will of their larger customers.

An important question is how to set prices in euro. Depending on the exchange rate, simply converting existing national prices to euro will generally produce awkward figures. Rounding euro prices upwards is dangerous, because customers will be alert to hidden price rises. Rounding down, on the other hand, can seriously re-

duce sales income, especially when products are sold as very large multiples of the unit price — as is often the case in the CPI. Possible solutions are to change the package size of the product, the product quality or the service level.

Euro prices not only have to be comparable to the corresponding prices in national currencies; as fixed transition rates imply increased price transparency, prices also have to be comparable across Europe. If they are not, price differences may drive unwanted cross-border trading by third parties.


What is true for marketing and sales applies to purchasing as well. Companies have to define how EMU will affect their purchasing strategies, conditions and prices, and perhaps to revise their portfolios of suppliers. Internal trading can be important too: for international sales within a group of companies, should the base currency be one of the national currencies of the business partners, the national currency in use at the company's headquarters, the euro or the U.S. dollar?

EMU affects many other functions besides purchasing, marketing and sales. Accounting in euro has new regulations to be learned, financial control and reporting standards need to change, investment strategies should be revised and there are changes in company law to consider.

Staff at all levels need information on the company's euro strategy and its effects on their pay packets and expense accounts. Employees whose work is directly affected by the transition, including members of the legal affairs, accounting, finance, personnel, purchase, sales and IT departments will need more specialist training.

Information technology (IT) systems must be able to handle different currencies and to respect the conversion rules laid down in the Maastricht Treaty. Especially in those countries participating in EMU, IT systems must also cope when the national currency eventually disappears and the euro becomes the base currency.

Most of Europe's CPI companies have already prepared themselves for EMU. Adapting both strategies and systems to EMU has been a long and costly business. The transition itself has been relatively painless; time will show whether the euro will pay off.

Veronika Reissinger is a consultant with PricewaterhouseCoopers Unternehmensberatung GmbH, Frankfurt am Main, Germany, e-mail veronika.reissinger@de.pwcglobal.com 



EMU? It's just another business change project

Business, not politics, determined ICI's attitude to EMU. "Demystifying" the euro has helped the company to manage a smooth transition, says Peter Everett

ICI has no vote, so we knew from the start that any discussion of the politics of EMU would distract us from our own objective: to understand the implications for our business operations. We went further, in fact, and concluded that whether the U.K. was "in" or "out" was going to be irrelevant. Given our pan-European spread of manufacturing and distribution locations, and the locations and preferences of our customers, ICI would always be "in".

Having "parked" the politics, we then sought to ensure that the internal EMU impact assessment included all aspects of the group's activities. Specifically, we did not see EMU as a Treasury project nor as an information technology (IT) project, although both were important considerations to address in due course. Simply put, we saw EMU as another business change project.

Turning EMU into the familiar project "animal" demystified the process and often made the right course of action self-evident. A central EMU steering group met regularly to exchange ideas face-to-face between different businesses. In parallel with these meetings a much wider population has used a "discussion database" to ask and answer questions and share valuable snippets. No-one has a monopoly on good ideas; it was key that all interested employees should be able to contribute to the thinking at local level.

Underpinning all this activity, the broad corporate mission was to ensure that we would be in a position to fully handle the euro by 1 January 1999. By this we meant that all of our businesses would be able to place and accept orders, invoice and be invoiced, pay



Everett: demystifying at ICI

and be paid in euro. ICI businesses were to be able to switch from doing business in (say) deutschmarks on 31 December 1998 to doing business in euro on 4 April 1999, if that is what was desired or necessary. That, I am happy to report, appears to have been achieved across the board.

All of ICI's businesses bar one (Polyurethanes, which has made the leap and converted the functional currency of its ledgers across to the euro) have followed this approach, and all are now

happily dealing with business partners in euro. Within the first few weeks of the euro's existence we were able to confirm that just about all of our businesses have been called upon to demonstrate their euro capability — and they have done so without difficulty. Interestingly, among the first trades ICI has done in the new currency have been with Sweden, an "out" country, and Turkey, which is not even in the European Union.

Peter Everett is deputy chairman of the EMU steering group with ICI plc, London, e-mail peter_everett@ici.com



"All systems go!", says this specialist fabricator

Aided by a new enterprise resource planning (ERP) system, ANTONIUS Vesselheads is ready to face the euro and the millennium

"We certainly think the euro will help us," says Johanna Noyon, business devel-



ANTONIUS Vesselheads built this 4.6 m-diameter, 60 mm-thick stainless steel toricone for Dow Chemical

opment manager for **ANTONIUS Vesselheads BV**. "We export 75% of our production, and until now, on every order from abroad we had to decide whether we or the customer would cover the risk of exchange-rate fluctuations. EMU will make life simpler because we will be able to forget the exchange-rate problems and concentrate on what we do best: making vessel heads."

For more than 60 years ANTONIUS has been making large steel pressings and fabrications for the chemical process industries (CPI). From its base at Maasbracht, the Netherlands, the company supplies vessel heads — flat, dished, spherical, elliptical and conical — for tanks and pressure vessels, plus other specialist parts such as reducers and access covers. It's a specialist business, and a rewarding one.

To maintain its competitive position ANTONIUS insists on the latest production equipment, which includes presses for hot-

and cold-forming, spinning machines and heat-treatment furnaces. New for 1998 was a 10,000 kN Boldrini press which can cold-form disks up to 10 m in diameter. Vessel heads up to 30 mm thick are cold spun; thicker plate is handled by hot-pressing, which can shape material more than 100 mm thick, while the very largest items are made by welding together smaller pressings.

Financial and management systems can be just as important as production technology. In January this year ANTONIUS commissioned the first stage of its new SAP-based enterprise resource planning (ERP) system, which gives the company the capability to deal in euro. "We are able to quote in euro and have taken our first euro orders. We haven't yet sent an invoice in euro, but we have already received euro payments," says Noyon. "And the SAP system will keep us safe from the millennium bug too!"

Circle 225



This supplier is a one-stop fluids handling shop

Engineering products group Econosto supplies seals, gaskets, hoses, valves — in fact almost everything you need for fluids handling

The **Royal Econosto Group** started life in Delft, the Netherlands, in 1892 providing advice to owners of steam boilers. Since then the company has celebrated a centenary, acquired its royal title from Queen Beatrix and moved from consultancy to the manufacture and supply of equipment and consumables relating to fluids handling.

The Flow and Sealing Technology division is an international group of companies operating under the Econosto name, with annual sales of more than Hfl 850 million (\$450 million) and around 2,000 employees. Econosto's main products are valves and fittings, gaskets and sealing products, hoses and couplings, rubber products, engineering plastics, emission control systems, safety products and instrumentation.

Econosto prides itself on having a million products in stock at its base in Rotter-

dam, supported by local stock worldwide, and on being able to deliver these items at short notice to customers around the world. Rotterdam's location is ideal for just-in-time transport by both sea and air.

The company designs and makes its own valves, gaskets, sealing products and industrial hoses. Well-known brand names include Econ[®] and Malbraque[®] valves, Econosto[®] instrumentation components, Hofland[®] semi-metallic gaskets, Novus[®] non-asbestos gaskets, Starpack[®] gland packings, Hofpamet[®] rubberized metallic gaskets, Starflon[®] expanded PTFE tape and Deltaflex[®] composite hoses.

Certified to ISO 9001/2, Econosto takes product quality seriously and is a key supplier to multinationals such as General Electric Plastics, Du Pont de Nemours, DSM and Air Products.

Circle 226



Broad outlook: Econosto's new headquarters in Rotterdam

For More Information, Circle XX



Stainless belts, perfect pastilles

Steel belt specialist Berndorf Band supplies complete pastillation systems for solid products

Cleaner and easier to handle than flakes or powder, pastilles are the product form of choice for many chemicals and polymers, says Austrian company **Berndorf Band GmbH**. Until recently a specialist manufacturer of high-quality steel belts, Berndorf now supplies complete pastillation systems as well.

At the heart of each Rolldrop pastillator is a highly-polished stainless steel belt. A rotating "dropformer" places drops of molten product onto the moving belt, whose underside is cooled by sprays of cold water. The droplets solidify into pastilles 2–3.5 mm high before being scraped gently off the belt and into a hopper ready for packing.

Melt viscosity can be anywhere from 50 cP to 8,000 cP. Heat-transfer fluid, hot water or steam provide melt temperatures up to 280°C, yet the short residence time in the feed system minimizes damage to sensitive products. Typical throughput is 50 kg/m²h for most products and twice this figure for hydrocarbon resins. The largest Rolldrop units produce around 1,000 kg/h of pastilles.

Rolldrop pastillators are designed for easy cleaning, and the small number of components keeps maintenance costs low. This is also true of the dropforming system itself, in which a series of "fingers" dip into

the melt before transferring product to the belt. Because there are no nozzles to block, the machines can even produce pastilles containing solid particles within the melt.

Besides pastillation, Berndorf steel belts appear in applications such as film casting and the double stainless steel belt presses now increasingly popular for wood products such as particle board and medium-density fiberboard (MDF). To prolong the life of their expensive belts, many users are taking advantage of Berndorf's bernmatic® system for controlling belt tracking. By automatically adjusting the belt alignment, bernmatic® ensures optimum product quality and minimum downtime. **Circle 227**



Packing pretty: pastillators from steel belt expert Berndorf Band

The best in glass-lined steel

Düker is an old-established name in glass-lined steel, but its products are right up to date

Eisenwerke Fried. Wilh. Düker GmbH traces its origins to 1918, when Friedrich Wilhelm Düker became chairman of the ironworks at Laufach in Germany. But Laufach itself has an unbroken tradition of iron-working that goes back to the fifteenth century, so it is a fitting home for a company that prides itself on quality and attention to detail.

At its factories at Laufach, Karlstadt and Thüngen, Düker produces a range of products including cast-iron pipes and fittings for water, gas and drainage; acrylic baths and showers; REX meat processing machines and Aqua-Clean ultraviolet steriliz-

ers for water. Best-known to chemical engineers all over the world, however, is Düker's range of glass-lined steel pipes, valves and fittings.

The company's Email 800 enamel offers excellent resistance to corrosion and thermal shock, allowing operation at temperatures up to 250°C, while the ISO 9001-certified manufacturing process ensures defect-free coatings. A Düker specialty is glass-lined bottom-outlet valves for process vessels. Available with pneumatic actuators or handwheels, these valves can be supplied with bellows seals for extra protection against leaks. **Circle 228**

For More Information, Circle XX



Controlling Norway's oil

ABB control systems help keep the Sture crude oil terminal running smoothly

The Sture oil terminal on the west coast of Norway processes, stores and distributes a large proportion of the crude oil moving out of the country. Ten years ago, the control and automation division of Swiss-Swedish engineering group **ABB** supplied all the automation equipment at the terminal. Now ABB has a contract to modernize and expand the control and automation systems.

The Sture terminal was commissioned in December 1988. A pipeline brings some 700,000 bbl/d of crude oil from the Oseberg A and C, Brage, Frigg and Veslefrikk oil fields, and condensate is also delivered from the nearby Kollsnes gas treatment plant. In a typical year, some 400 vessels will call at Sture, shipping its oil to destinations all over the world.

The original Sture plant was constructed by Norwegian oil company Norsk Hydro. ABB delivered the automation equipment, in the form of Masterpiece controllers and Masterview operator stations. Also supplied by ABB were an information management system (IMS) and an emergency shutdown system (ESD), which, however, was not integrated with the main control system.

Now the Sture facility is being upgraded and expanded. The main contractor for the project is Raytheon Engineers & Constructors, who has subcontracted ABB to deliver a complete new automation system. ABB is replacing the Masterview stations with Advant Operator Station 520 terminals, and the existing communications network is being replaced by a fiber-optic network using both Masterbus 300 and TCP/IP protocols.

A complete new ESD based on ABB's Advant Safeguard 415 has been delivered, and this time it will be integrated with the main control system. The new fire and gas system is based on Advant Controller 410 computers, while Advant Controller 450 and 410 modules handle process control and emergency shutdown in the plant's two process areas.

The expanded control system will also take in the jetty loading arms, the docking radar system — which supervises the ships as they approach the jetties — and the weather monitoring system. With the upgrade, the whole plant is now year 2000-compliant, says Göran Schroder of ABB Industry, Norway.

Circle 229



Scandinavian chic: the control room of the Sture oil terminal. ABB is modernizing the main control systems and integrating functions such as gas detection and emergency shutdown

For More Information, Circle XX



Clean plants: no science fiction

Zero-effluent plants are a practical reality, as Finnish company Chematur EcoPlanning demonstrates



This water treatment plant, built by Oy Metsä-Botnia AB for Joutseno Pulp in Finland, uses flotation, ion exchange and precoat filter technologies supplied by Chematur EcoPlanning

Zero-effluent plants are not a dream; they are to be found in Bulgaria and Ukraine, among other unlikely places. Using evaporation and reverse osmosis (RO), these waste-

water treatment plants designed and built by **Chematur EcoPlanning Oy** produce demineralized water as their only liquid effluent.

A subsidiary of Swedish engineering group Chematur AB, Chematur EcoPlanning is based in Pori, Finland. The company specializes in process plants for recycling and environmental protection, such as water and wastewater treatment for paper and pulp mills, power stations and chemical plants. This technology includes ozone/UV treatment, ion exchange, RO and specialist processes for removing oil.

The company is also an expert in evaporation and crystallization for acid regeneration, especially in titanium dioxide plants, sodium hydroxide and other chemicals. As a result, the firm has a wealth of experience in recovering acids, valuable metals and metal salts using corrosion-resistant construction materials such as tantalum and graphite. Chematur EcoPlanning's third main business area is an inherently clean technology: extraction using supercritical carbon dioxide.

Circle 230

GOST! It's Ukrainian titanium

The former U.S.S.R. was well-known for its titanium. FIKO, a new company in Kiev, is carrying on the tradition

The **FIKO Joint Stock Company**, based in Kiev, is a private firm founded in 1991. FIKO owns a number of sugar refineries, a factory for PVC goods and, of most interest to chemical engineers, a titanium mill.

FIKO manufactures and exports titanium ingots, sheets, plates, bars, tubes and wire. Seamless tube is a specialty. The material can be supplied to either ASTM standards (Grades 2, 5, 9 and Ti-6Al/4V) or their Russian GOST analogs (Grades VT1-0, VT6 and PT-3V). Although the GOST standards may be unfamiliar to buyers abroad, they provide high-quality titanium at prices up to 20% lower than the ASTM materials, says marketing manager Sergio Piskun.

With 400 m.t. of rolled titanium materials in stock at its warehouses in Kiev and Berlin, FIKO is well able to meet even large export orders. As well as semi-finished titanium products, FIKO can also supply titanium heat exchangers and other equipment

for chemical and petrochemical plants.

FIKO already has customers in Germany, Italy, Sweden, Czech Republic, the U.S., Argentina and Turkey, and is looking forward to establishing contacts with new partners. The company is a member of the International Titanium Association and the International Tube Association.

Circle 231



Where it happens: FIKO's titanium mill

For More Information, Circle XX



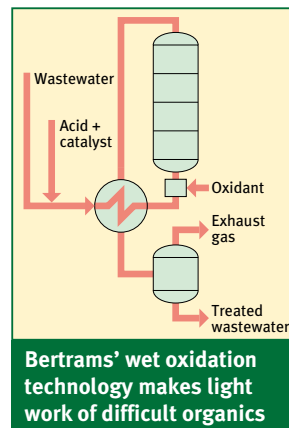
There's no such thing as waste

The Swiss firm of Bertrams has adapted itself to changing environmental priorities by developing new technologies for recycling energy and materials

Still best known outside its native Switzerland for fired process heaters, Bertrams AG is a company that within the

last few years has reinvented itself. While thermal fluid heaters and other combustion systems remain important to its business,

Bertrams has also developed a broader portfolio of equipment and technology for the alkali industry, sludge dewatering, recycling of energy and materials, and engineering services.



Process wastes are an invaluable source of energy or raw materials, says Bertrams. To prove it the company has developed a range of integrated solutions including customized incineration systems to destroy waste materials. These meet stringent emissions requirements while recovering the maximum amount of useful heat for use in the process.

Another example is the recovery of spent sulfuric acid. This can make good economic sense, says Bertrams, but with such a corrosive material it is essential to use a technology supplier who knows how to design plant for maximum reliability. Bertrams supplies sulfuric acid recovery plants to work with acid concentrations from 75% to 97% and at concentrated acid throughputs up to 1,000 m.t./d.

Wet oxidation to treat recalcitrant organics in wastewater is another Bertrams specialty. In the presence of a catalyst and at process temperatures up to 250°C, dilute nitric acid oxidizes even difficult organics to the point where they can be dealt with easily by conventional biological treatment plants. Simple process control and short residence times make the process reliable and cost-effective, says the company.

Not all the technology concerns waste recovery. Bertrams also makes thin-film evaporators, flakers, prilling machines and other equipment for the alkali industry, where its innovative approaches have yielded solutions that have become industry standards. Through its Chemengineering business, Bertrams also provides specialized engineering services for the life sciences industry.

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For More Information, Circle XX



New technologies advance process gas analysis

Servomex gas analysis technology makes process monitoring more accurate and more reliable, without increasing costs

Major new gas analysis developments launched by **Servomex** during the last few years have increased the precision, boosted the reliability and reduced the cost of process gas analysis in many areas of the chemical and petrochemical industries. The Servomex xendos 2500 series of single-beam dual-wavelength infra-red gas analyzers, for example, brings long-term accuracy to the analysis of gas streams in dirty environments, including HCl.

The xendos 1800 paramagnetic oxygen analyzer, and its companion xendos 1900 for hazardous environments, have increased the accuracy while cutting the cost of monitoring the percentage of oxygen in a wide range of processes. And last year's launch of the xendos 2700 combustion analyzer introduced to the world the precision of the Tfx thick-film transducer, providing

stable and accurate combustibles measurement down to 0–500 ppm(v).

Application notes available free from Servomex give detailed advice on how process gas analysis can be used to monitor gas streams, improve process efficiency or monitor safety. The notes include schematic diagrams and a great deal of practical information.

Some of these application notes are included in the Servomex Group's website at <http://www.servomex.com/>. Packed with detail about gas analysis techniques and applications, the site also includes a new educational document describing and comparing paramagnetic, zirconia, photometric and thick-film gas analysis technologies. Color diagrams show readers how each technology works, and there are hot-links to request more information. **Circle 233**



Smart systems: xendos 1800 and 1900 oxygen analyzers cut costs while increasing accuracy, says Servomex

For More Information, Circle XX



Analyzers measure pH, conductivity and oxygen

The SIPAN® family of instruments from Siemens provide powerful yet cost-effective solutions for liquid measurement



Versatile and cost-effective: SIPAN® analyzers from Siemens

For pH, conductivity, concentration and dissolved oxygen measurement, the SIPAN® analyzer family provides an unbeatable combination of power, ease of use and value for money, says **Siemens AG**.

The SIPAN® 32 is a two-wire instrument with a price to match, yet with features normally only available in four-wire analyzers. Five models measure conductivity using two electrodes, four electrodes or inductive sensing, pH, redox and dissolved oxygen.

For even greater power and flexibility, the SIPAN® 34 offers true four-wire technology and is claimed to be the easiest-to-operate instrument of its kind on the market. For conductivity, interchangeable sensors give a measurement span of nine decades, from ultra-pure water to concentrated acid. The SIPAN® 34 can also measure pH and redox simultaneously (or pro-

vide redundant measurements of a single variable), and dissolved oxygen.

All SIPAN® analyzers have a permanent display of temperature along with the main measured variable. Displays and keyboards have logical menu structures, IEC-approved symbols and automatic checking of input data. Other features include built-in diagnostic functions, programmable display of concentration as calculated from conductivity, a logbook and a second output.

A HART interface allows analyzers to be configured remotely and to be connected in multi-drop mode if required. When there is a change in plant conditions, such as a different process fluid, a unique feature called "method switching" allows users to change the analyzer's measuring range or even measuring technique, either from the front panel or remotely.

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Automation for all

FF-Automation supplies flexible, scaleable process control systems



Fault tolerance: the AutoLog 2000 control system from FF-Automation

FF-Automation Oy of Vantaa, Finland, describes its AutoLog range as “all-in-oneware”: hardware and software that can be tailored to suit applications ranging from single-board programmable logic controllers (PLCs) up to large distributed systems.

AutoLog systems are in operation at several power stations, water treatment plants and district heating systems in Finland.

Overseas references include oil

and gas plants in South Korea, China and Russia.

AutoLog 2000 is a distributed PC-based control system incorporating “soft PLCs” and loop controllers in a scaleable client/server architecture. AutoLog 2000 runs under the fault-tolerant real-time operating system QNX.

Circle 235

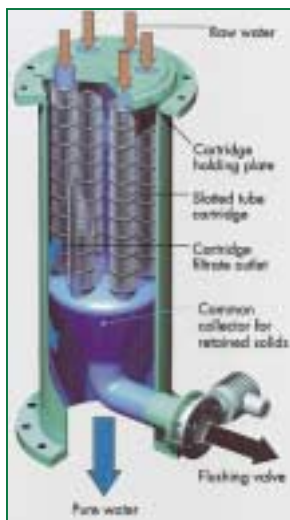
Easy-clean water filters

Dango & Dienenthal has an improved design of wedge-wire backflush filter

Most cooling water filters are difficult to clean by backflushing, says German manufacturer **Dango & Dienenthal Filtertechnik GmbH**, because the shape of the filter apertures traps dirt particles. The company claims to have a better solution; satisfied customers include the CERN particle accelerator in Geneva, which relies on Dango & Dienenthal filters for its cooling water.

The apertures of most “slotted tube” or “wedge wire” filter media have an edge radius of around 50 µm, says the company, and at mesh sizes smaller than 200 µm this can be enough to cause blockage.

The Dango & Dienenthal solution is to grind the filter surface so that the apertures have truly sharp edges, making it much harder for particles to become wedged. Careful hydraulic design also means that many of the heavier particles are swept past the filter elements and trapped in a special collection chamber where they cannot contribute to filter blinding.



Dango & Dienenthal's filter sweeps heavy particles straight into a collection chamber. Sharp edges on the filter medium allow easy backflushing

Circle 236

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80E-17



Tough tantalum

Cometec specializes in tantalum plant and equipment for corrosive conditions

Tantalum is attacked only by concentrated sulfuric acid at temperatures above 200°C, hot alkaline solutions and hydrofluoric acid. Its toughness and high thermal conductivity make tantalum suitable for jobs that would defeat glass, PTFE or graphite.

Yet companies who work with tantalum, like **COMETEC GmbH** of Germany, need to know their business. Tantalum's melting point is nearly 3,000°C, its density is 16,600 kg/m³ and it dissolves gaseous impurities easily. Tantalum can be very reactive, and at high temperatures it can embrittle other metals. COMETEC understands how to cut, form and weld tantalum reliably and economically. The company makes heat exchangers and coils, pipes, valves, bellows, column internals, tanks, agitators and repair kits for glass-lined vessels from tantalum and tantalum-clad steel. The ISO 9001 company designs and builds pressure vessels to German TRB 200 or ASME standards. **Circle 237**



Tantalum specialist: heat exchangers from Cometec

Evaporators clean up

GEA Wiegand has new waste-disposal technologies based on evaporation

Tightening environmental laws are making it increasingly difficult to dispose of oily wastes by traditional routes such as chemical treatment followed by landfill.

A large German waste disposal firm asked process technology company **GEA Wiegand GmbH** for a better solution. GEA Wiegand used its experience of waste treatment evaporators to develop a two-stage evaporation process.

A rectification column first removes volatile solvents and ammonia. The wastewater is then concentrated in a falling-film evaporator and a forced-circulation evaporator, arranged as a two-effect plant with mechanical vapor recompression (MVR). The final solids concentration is around 60%, while the evaporator condensate passes directly to a biological treatment plant.

GEA Wiegand's expertise in evaporators is aided by the company's history of building vacuum ejectors and jet pumps. At the beginning of this year the GEA group spun off this technology into a new company, GEA Jet Pumps GmbH, based in Ettlingen. **Circle 238**



GEA Wiegand evaporators clean up oily waste

For More Information, Circle XX



EMU: a big adventure, and it's profitable too

Pump manufacturer ENSIVAL looks forward to a federal Europe, but sees more immediate advantages in being able to quote customers in euro

“Monetary union is a big adventure,” says Jean-François Bertrand, marketing manager of pump manufacturer **ENSIVAL SA**. “It will help Europeans look beyond a thousand years of history and realize that we are all in the same boat. Of course the process won’t be complete until we have a federal Europe, with the same rules and taxes everywhere, but the euro is a start.”

Bertrand also sees much more immediate benefits for Belgium’s leading pump manufacturer. “We export 75% of our production, and in the past we have quoted mainly in Belgian francs and U.S. dollars,” he says. “We have offices and agencies in more than 50 countries, and customers in many of those countries will find the euro more stable and more familiar than the franc. With the recent strength of the dollar I think that even Americans will

be prepared to buy in euro.”

“Multinational companies want the right product at the right price, wherever it comes from,” says Bertrand. “We have pioneered a method of mounting large-diameter axial pumps so that they are supported entirely by the pipeline. Last year we sold some of these pumps to a U.S. customer. This mounting system is unusual in the U.S., so it was a challenging sale. But we proved that people will buy if you have a good technical solution, as long as the price is right.”

“Now with the advent of the euro we can be even more competitive on price, because it allows us to eliminate exchange-rate fluctuations. There is also a psychological advantage to euro prices compared with Belgian francs: the numbers are smaller!”

Circle 239



Hand-crafted: a patternmaker at **ENSIVAL** puts the final touches to a new centrifugal pump design



Clean liquid transfer

Flux-Geräte has a new range of oval-rotor flowmeters and a hygienic barrel pump

The new FMO range of oval-rotor totalizing flowmeters from **Flux-Geräte GmbH** is equally suitable for thin liquids and high-viscosity products up to 500,000 mPa.s. Six models cover flowrates in the range 0.01–400 l/min, with an accuracy of $\pm 0.5\%$. Maximum operating pressure is 55 bars, with a temperature limit of 80°C or 120°C depending on the material of construction: PPS polymer, aluminum or stainless steel. Multifunction keys allow the seven-digit LCD display to show total quantity, partial quantities and instantaneous flowrate, and with the addition of a suitable interface the meters can be used as part of an automated batching system. All the meters are EEx i approved for use in hazardous areas.



Oval rotors for better performance: the FMO flowmeter is accurate to $\pm 0.5\%$, claims Flux

Flux is also well-known as a manufacturer of barrel pumps. In the last 40 years barrel pumps have outgrown their petroleum-industry origins to become widespread in many different applications, with a corresponding choice of designs and materials. Flux, for example, has developed a seal-less model and also a highly corrosion-resistant version in polypropylene or PVDF with a mechanical seal. Both designs have a steel-cored inner tube which prevents seal leaks by providing lateral rigidity.

The latest Flux barrel pump is the F 427 S, designed for the pharmaceutical, cosmetic and food industries. Wetted parts are made from stainless steel and PTFE, and all parts except the coupling cage can be autoclaved at up to 128°C. The most noteworthy feature of the pump is the ease with which it can be stripped down for cleaning: the six steps required take a total of only 100 seconds, claims Flux. A quick-action coupling in polypropylene or a union nut made from polypropylene or stainless steel connects the pump to the motor.

The F 427 S handles a range of fluid viscosities, delivering a maximum flowrate of 180–240 l/min for thin liquids. Drive is by compressed-air or electric motor, with the latter available in a flameproof version for hazardous areas. The pump is said to be easy to handle and quiet in operation. Immersion tube lengths vary from 700 mm to 1,200 mm, and the range of accessories includes food-grade flexible hoses, stainless steel valves and sanitary couplings.

Circle 240

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