

EDITORIAL



Dear Readers,

What will the year 2002 bring us? This question has frequently been asked in the last few days and weeks.

In the year of the "electronica" exhibition (in Munich from 12-15.11.02) we are already working with maximum commitment on new ideas and solutions. Allow us to surprise you this late autumn.

Today we can present the ERGO-CASE, the innovation in this sector, as well as interesting extensions. So before you start work on new projects, you should have a look at our Turtle News.

You'll also get interesting information about the injection moulding process and our measurements to reach best quality.

Find out more about our distribution strategy in the medical field and laboratory technology. For this refer to Page 4 of this issue please.

I wish you a successful New Year and much pleasure with the first issue of Turtle News in 2002.


Christoph Schneider,
Chartered Engineer
Managing Director



Consistent quality injection moulding production by OKW Quality Leadership Strategy

Part 3 of the series "From the market to the finished case".

OKW Gehäusesysteme sets high standards as far as product quality is concerned. This is closely associated with the design of the parts, the tools and material, the injection moulding machine and the actual production process.

As described in the last issue of our customer magazine, the parts are generally designed in such a way that consistent quality production of the moulds as well as plastics-specific production are possible. A steel that is also resistant to the additives in the special materials such as ABS V-0 or ABS/PC V-0 is selected for the tools themselves. A new feature is the surface quality of OKW plastic parts in internal company developments. The surface structure is applied to the tools with special adjustment parameters during eroding. In order to meet the contour requirements specified by the designers, almost all of the data are available to the toolmakers for three-dimensional implementation. Mould marks and broken runners are prevented by properly executed parting, correct dimensioning and planning of the runner system. A sufficient number of variably controllable cooling circuits in the tool also prevent distortion or

bowing.

As materials, OKW mainly uses ABS (acrylonitrile-butadiene-styrene) or PS (polystyrene) in the colours off-white (RAL 9002) and black (RAL 9005). Both materials are supplied by renowned German manufacturers. Specific settings and additives ensure improved thermal dimensional stability and impact strength, and also have an antistatic effect. The agreed values including colour deviations are confirmed by means of a test certificate on delivery. Through the purchase of large quantities, the number of batches and thus possible deviations are kept to a minimum. In general, OKW uses only material that is coloured by extrusion moulding, even for customer-specific colours.

Only as-new injection moulding machines are used for the production of the parts; these machines show no mechanical wear or tear, and the electronics allow the use of open or closed loop process control. For cost-effective production, various machine sizes are available, with a clamping force of 50 to 650 tonnes. Suitability depends on the projected surface area of the parts and on the size of the tools.

Injection moulding (see also the diagram on Page 4) is a basic

moulding process for thermoplastics, that is, a reversible physical forming process. This also explains why the recycling of thermoplastic parts is so simple.

The process: thermoplastic granules are melted in the cylinder of the screw injection moulding machine at approx. 240° C, the molten mass is homogenised and injected into the tool. The tool temperature is between 60 and 90° C when using ABS material. In general, the injection time does not exceed 1 s, and the dwell time until the gate hardens is only a few seconds. The decisive factor for the cycle time is usually the cooling time of the parts in the tool until ejection (removal from the tool). With large injection-moulded parts, this can take several minutes. The injection pressure ranges from 600 – 1,800 bar. One example: a case part with a surface of 100 x 150 mm and an injection pressure of 1,000 bar means a force of 1,500,000 N. This means that the machine must have a locking pressure of 150 tonnes to ensure that the tool remains closed during the injection operation.

Continued on Page 4.

New approach in case technology ERGO-CASE

Appliances worn directly on the body require new solutions in case technology. OKW Gehäusesysteme has taken up the problem and is now in a position to present a standard solution.

Continued on Page 2.



INDEX

New products
Pages 1 and 2



Applications
Page 3



Service / Dates
Page 4



NEW PRODUCTS

Continued from Page 1
ERGO-CASE

With its innovative design and a technology to match the application, the ERGO-CASE series is ideal for being worn on the body.



The requirements to be met by these "body cases" were highly varied: comfortable to wear on the body, even over a longer period of time, display elements easy to read, ergonomic to operate, room for interfaces for cable inputs and outputs, optional attachment to webbing or belt, as well as an internal power supply option for mobile applications.

The new series of cases consists of 2 sizes with two heights each for different installation configurations. Its ergonomic design makes it easy to carry on the body. Belt loop attachment is available as an accessory, made of elastic material to improve carrying comfort. The attachment can be mounted easily and securely by drilling holes at the marked positions in the lower part of the case. OKW can also supply the webbing on request – there are two different lengths in stock.

The three-part case design, consisting of the upper part, the lower part and a separate battery compartment cover, guarantees

access to the power supply from the outside. For battery operation, 3 different compartments are available: 4 x 1.5 V mignon cells (AA), 1 x 9 V flat battery (PP3) or 2 x 9 V flat battery (PP3). The case is assembled using self-tapping screws which are invisible when viewed from above – adding to the attractive appearance of the case.

Generously dimensioned interface surfaces in the upper part offer plenty of space for the use of circular connectors, sub D connectors, screwed cable glands, displays etc.



Attachment domes are integrated for the installation of boards and components. All versions also have recessed surfaces on the upper parts for membrane keyboards and keypads.

To upgrade the protective system, a set of seals is available.

The structural details as well as the modern design also allow applications as hand-held, wall-mounted and desktop cases – 4 rubber feet are already included to make sure it does not slip when used as a desktop unit.

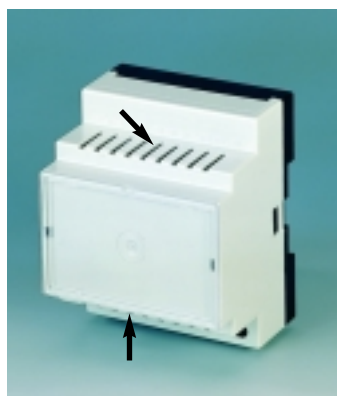
Further information:
Digit **001** or *online**

Keep cool when things get hot

RAILTEC

The RAILTEC versions I for print terminals, II for plug connectors and III as a closed case for front-panel connectors are now also available with ventilation slots in the upper parts. The ventilation slots are located on the top and bottom, so that good heat dissipation can be achieved even when components with greater heat generation are being used.

These additional versions are already included in the new 2002/2003 issue of the catalogue.



Further information:
Digit **003** or *online**

New: Versions for battery compartment installation COMTEC

There are new members in the COMTEC family of desk cases which was presented in the Turtle News one year ago. Both case sizes (150 or 200 mm wide) in the two heights each are now also available in versions for battery compartment installation.

This means that additional applications are now possible for mobile use. The battery compartment is accessible from the outside, which is particularly useful when switching power sources. To achieve this, the case is designed in three parts: an upper and a lower part, with a battery compartment cover. Three different types of

battery compartment are available: 4 x 1.5 V mignon cells (AA), 1 or 2 x 9 V flat batteries (PP3). Sets of battery clips are available for ensuring correct contact.

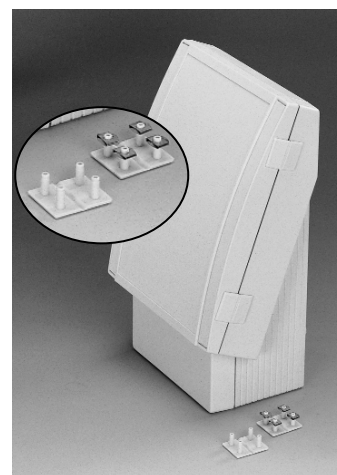


Further information:
Digit **002** or *online**

Universal application Hinge

A new item in the range of accessories is a hinge for universal use which can be used for securing the cover when opening the case. Machining (drilling holes) is necessary. Rational installation is then possible by means of a fast-action securing device.

In the OKW range of cases, the hinge is suitable for use, for example, with the DATEC-TERMINAL M, SL or S. It is also suitable for all cases with a cover height of at least 15 mm.



Further information:
Digit **004** or *online**

Note: „Mechanical Strength“ with PMMA

Cases made of PMMA are not comparable to cases made of ABS in terms of mechanical load-bearing capacity. In spite of great improvements in the composition compared with standard moulding materials, its special property is infrared permeability. This means that special load tests may lead to unfavourable results.

Use for PMMA (plexiglass®) with OKW standard cases:

- SMART-CASE, Digit **005**
- DATEC-POCKET-BOX, Digit **006**

DATEC-TERMINAL M & L:
Alterations in the scope of delivery of covers and basic case versions II and III

In future the hinges, quick-action locks and locks will no longer be enclosed with the covers but with the relevant basic case versions II and III.

This means:

- Covers of the previous version I will be used for all basic cases.
- Existing stocks have already been altered.

The alterations in the standard parts have already been taken into account in the latest 2002/2003 edition of the catalogue.

Digit **007** or *online**

Rational Time Management

Flexible personnel times, access controls and working time-oriented operating data require a modern electronic time measurement and management system.

The company Vicking Electronics N.V., with main office in Paal-Beringen, Belgium, offers the TIMEmate III, a low-priced terminal, for this purpose. It is available as an online or offline system.

The system is installed in an OKW DATEC-TERMINAL case, which is predestined for easy operation and top readability of the display thanks to its aesthetic design and ergonomic form.

The waterproof membrane keypad is protected in the recessed operating panel of the hood. Manual input is possible by means of numerical keys, user-specific function keys as well as through menus selected using the cursor keys. The LCD-type display has 4 lines of 20 characters each and is backlit. The real-time clock is



buffered by a battery. Communication with the terminal can be established using various interfaces, e.g. RS 232, Ethernet TCP/IP. Various read technologies, such as Proximity, Mifare, infrared barcode scanners and magnetic card readers are supported.

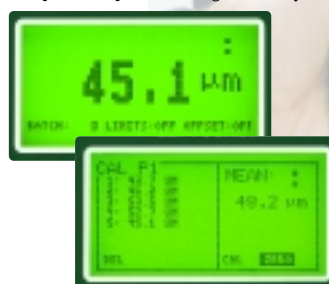


Information: www.vicking.be

The Comfortable way to measure the thickness of layers

When buying and using a layer thickness meter, the user is not only interested in fast and highly accurate measurement, but also in ease of operation.

A renowned manufacturer has now introduced a solution to this problem, the new leptoscope. The special new feature is the large-area graphics display, with a visible area of 28 x 55 mm or 64 x 128 pixels. Not only does this make it possible to display the measured values with a character height of 12 mm, it also simplifies operation significantly.



For example, the device settings (batch, limits, offset) can be displayed as a check during the

measurement. Furthermore, several menu items always appear at the same time in the display. The required function is then selected with the cursor keys and activated using the Enter key. This dispenses with laborious scrolling through the menu. With series of measurements, the statistical values can also be read off from the display. During calibration, not only individual measurements but also average values are displayed at the same time. This increases measuring accuracy, since incorrect positioning of the probe is detected immediately and freak values can be deleted.

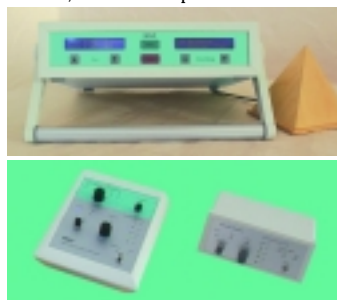
Up to 7700 measured values can be stored using the generously dimensioned data logger in the OKW DATEC-MOBIL-BOX S. The user has an easy-to-operate Windows program for the PC at his disposal to read out and further process the data. By using different probes, all non-magnetic layers on a magnetic base and all non-conducting layers on a conducting base can be measured up to a thickness of 1200 µm; special twin-pole probes are available for thicknesses up to 12 mm.

Harmonic Signal Therapy

Health is the equilibrium of body, mind and soul in a person. If a long-term deficit occurs in one of these elements, so-called sensitivity disorders occur initially, for example insomnia, exhaustion or headaches. If these disorders cannot be compensated for in the long term, illnesses going as far as chronic pain may develop.

In order to satisfy man's need for energy compensation in different areas, the company HST in Freilassing has developed a family of appliances. The basis for this is Harmonic Signal Therapy. This brings the user back into balance, fills up the energy stores and allows the user to enjoy relaxing sleep. Further applications are treatment for asthma and neurodermatitis. "The difference between this and other magnetic field devices is the wave range, which harmonises with the

body. The oscillations are absolutely positive and free from adverse side effects. This also applies for babies, old people and chronically ill people," says the Managing Director of HST, Alfred Schöpf.



Depending on the field of application, different cases from the OKW range of products are used, e.g. COMTEC and MOTEC for domestic appliances and MEDITEC for stationary appliances in doctors' surgeries, with non-medical practitioners or therapists. The service by OKW also covers the delivery of tuning knobs and front panels.

Information:
Fax +49(0) 86 54-77 88 48 0

Systematic conflict-free management

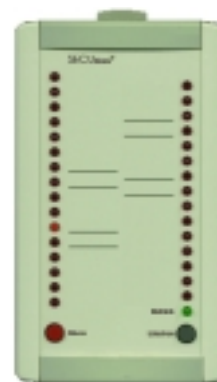
Security systems do not always mean bars, armoured glass or a uniform.

The company Kretschmer from Berlin offers an innovative solution for this problem with its SECUteam. Interviews with customers, visitors or patients can take place in a fear-free, friendly working atmosphere. If the situation threatens to escalate, help can be called at any time. Colleagues from a neighbouring room drop by – as if by chance – and thus ease the situation.

The new system also cuts costs, for it does not cause any personnel costs, nor does it require extensive building measures. SECUteam is more a humane, unobtrusive companion than a security system. The emergency paging system consists of individual call stations equipped with desk-top pushbuttons or cordless emergency call

transmitters. By linking up several SECUteam groups, it is possible to transmit the alarm to the other groups and to the mobile emergency call receivers of the guards or of the caretaker. SECUteam is a solution for modern, open management structures.

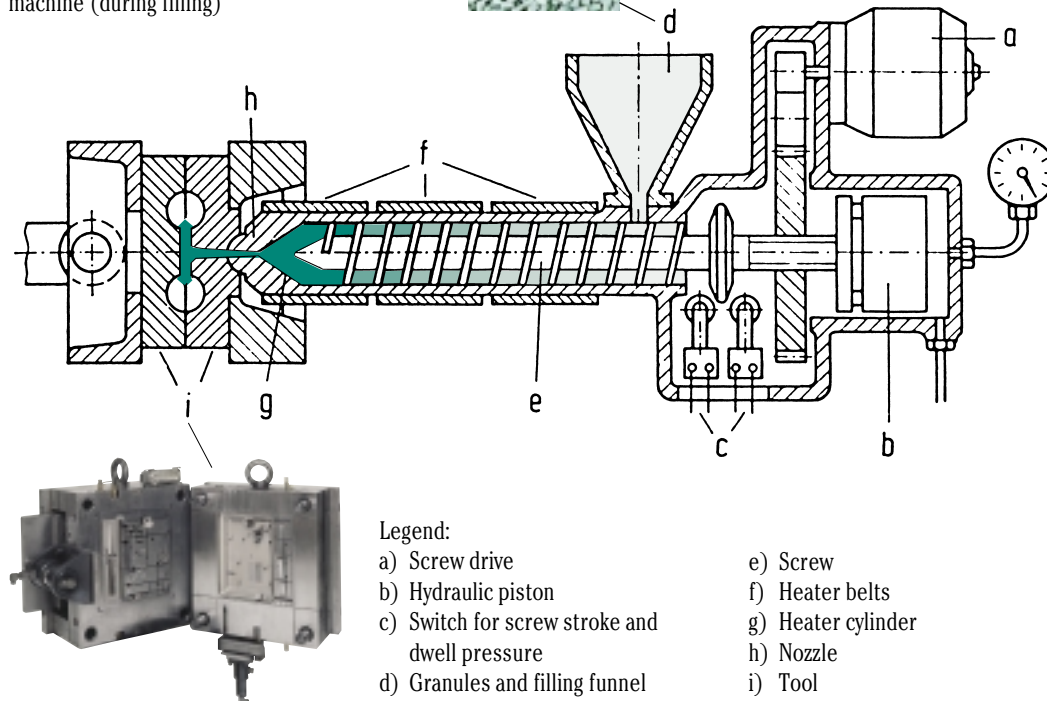
As far as the case is concerned, the decision was taken in favour of TOPTEC. Its modern design and the advantages in installation were the decisive features.



Information:
www.kretschmer-berlin.com

Continued from Page 1

Diagram: Screw injection moulding machine (during filling)



Injection moulding is influenced by very many parameters. Considerable experience is therefore required in order to find the optimum settings to make the process possible and controllable. OKW possesses the necessary know-how, from the design right down to the actual injection moulding. With consistent quality thinking firmly anchored in the company's policies, it is thus possible to contribute in future towards distinguishing OKW products from rival products and thus towards customer satisfaction. Feel the difference.



Author: Egon Weinlein,
Technical Manager

Cases and tuning knobs for medical equipment successfully presented at the ComPaMED

Comprehensive application know-how in this market segment

For the first time, OKW Gehäuse-systeme is presenting its products at the ComPaMED trade fair in Düsseldorf. The ComPaMED takes place annually, parallel to the MEDICA exhibition, the world's largest trade fair for medical and laboratory technology and electromedicine, and offers a platform for components, intermediate products and raw materials.

In the wide range of products and services of OKW Gehäusesysteme, numerous products are used in the development of medical equipment. Thanks to many years of cooperation with partners from the "Medical and Laboratory Technology" market segment, OKW has acquired comprehensive application know-how. New findings are constantly being integrated into the development of products. For the first time, the ERGO-CASE, which is new in this sector, was presented to a wide public. To find out more about this innovation, please refer to Pages 1 and 2. "By presenting our product at this specific trade fair," explains Marcus Kurz, Export Manager, we want to put into practice our

marketing policy of 'being even closer to the customer from the medical and laboratory sector'. Initial successes have proved that we are on the right path. In numerous discussions an active exchange of information took place – to the benefit of both sides, I believe. The great international significance of this sector is becoming quite obvious. On a walk round the halls of the exhibition I was also able to discover many OKW products. This is highly encouraging and makes us optimistic for the future."



Photo left: Comfortable to carry on the body – the ERGO-CASE, the innovation in this sector, in practical use.



Marcus Kurz, Export Manager



OKW Gehäusesysteme gave an open, frank presentation at the ComPaMED. There was a lot to say about the products.

DATES

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Next Issue

TURTLE NEWS June 2002

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