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Information for customers and partners

## Customer HAUX

Global market leader for the production of medical pressure chambers

## Interview

“Expected growth of 5 to 10 percent”

## Production

Conversion times of machines nearly halved

## Editorial



Dear readers,

when I arrive at my workplace in the morning, I am still delighted of our new building. It is not only attractive – it stands above all for the sustainability of HEROSE, the optimism that allows us to tackle the years to come. But there is no future without past:

The building was completed in time for an anniversary we are planning to celebrate with a family party in mid-April: 140 years of existence of one of our founding companies, valve factory Th. Rose KG at Hamburg-Altona. In 1873, foundry master Theodor Rose started producing fittings for shipbuilding and building technology here.

I hope you enjoy reading and wish you a nice spring!

Dirk M. Zschalich  
Managing Partner

## Better healing under pressure

HAUX headquartered at Karlsbad is the global market leader for the production of medical pressure chambers – and HEROSE has been supplying pertaining safety valves for more than ten years

Pressure Chamber Centre Karlsruhe: Lately, the Speyer Diver's Club paid a visit to where usually patients undergo the hyperbaric oxygen therapy. The aim was to experience the decompression sickness phenomenon. Harald Barthel, HBO2 pressure chamber operator in Karlsruhe: “I set the chamber to the maximum pressure of 5.0 bar, corresponding to a diving depth of 50 metres.” What happened then he describes as follows: “The divers – all of them beginners – went completely berserk and behaved as if they were completely intoxicated.” When watching the video recording of the experiment afterwards, the group reacted in a remarkable way. Barthel: “The participants quickly lost their wits. None of them will ever take diving lightly. Each of them could experience how life-threatening the decompression sickness can be.”

This noteworthy afternoon in the “STARMED 2200” pressure chamber equipped with HEROSE safety valves

was an exception only. Usually, the Pressure Chamber Centre Karlsruhe treats patients with the hyperbaric oxygen therapy (HBO). This is a therapy where patients subjected to overpressure inhale medically pure oxygen. To achieve a therapeutic effect, the pressure is increased to 1.5 - 2.3 times the normal pressure. Then, the “oxygen medicament” is breathed with a respiratory



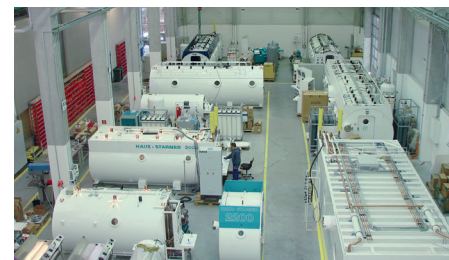
A HAUX employee during final assembly



The operations manager pointing at the HEROSE valve of the pressure chamber – managing director Jochen Haux (r.) talking to HEROSE visitors Kühn (l.) and Esche



The HAUX INNOVATION CENTER (HIC)



In the Karlsbad production facilities

mask. The lungs transfer this inhaled oxygen to the blood. Due to the increased pressure in the chamber, a considerably higher amount of oxygen physically dissolves in the blood. Consequently, body areas poorly supplied due to their location or premature damage are supplied with a sufficient amount of oxygen. This triggers biological processes that would not occur without oxygen. The HBO therapy helps patients suffering from acute hearing loss or tinnitus, bone marrow oedema, radiation damage, poorly healing wounds or the so-called diabetic foot, which is responsible for two thirds of all foot amputations.

The manufacturer of the “STARMED 2200” pressure chamber is HAUX, headquartered at Karlsbad, located some 20 kilometres east of Karlsruhe. Gerhard Haux, who had been working for Dräger in Lübeck where he had built up the Diving Technology department, founded the company in 1980. His son Jochen Haux, now managing the company together with his brother Torsten: “Some 32 years ago, my father finally set up a business of his own.” The exhibits of the small museum in the HAUX administrative building at Karlsbad still exemplify the company founder's passion: diving. This is how the success story of “HAUX-LIFE-SUPPORT GmbH” began. Jochen Haux: “Today, we serve three sectors with approximately 130 employees: underwater, medicine and under ground/ tunnel construction.” Today, medical

chambers – a sector where HAUX has become the world's market leader – are responsible for approx. 60 % of the turnover. There is a long reference list: for a hospital in Lille (France), for example, HAUX built the world's largest pressure chamber system, featuring three therapy chambers all of which can be used for intensive care.

HAUX is still very active in the Diving sector. The product range comprises decompression chambers, diving simulators and even full-fledged deep diving installations. Jochen Haux: “Deep diving installations are a special challenge. Imagine being on a space flight under water. The divers not only work in depths up to 300 metres, for example when repairing pipelines, they also spend their leisure times in a directly docked accommodation container system. And they do this for as long as six weeks.” At an overpressure of 30 bar down there, you cannot simply drive home after work... The system equipment even makes emergency surgery possible.

HAUX also is a supplier of the German Navy: a diving simulator at Kiel where prospective divers learn their difficult profession. And there is the third sector, Tunnel Construction, where HAUX comes into play when underground construction sites have to be pressurised, for example.

HAUX builds 40 to 50 pressure chambers a year. Apart from the headquarters at Karlsbad, there is a second company

site at Cuxhaven dedicated to vessels and apparatus construction. At Karlsbad, each pressure chamber is completely assembled, thoroughly tested, disassembled again and finally installed at the customer's. Torsten Haux: “We have a basic maintenance team of up to ten persons for this task.” HAUX remains an active player even after delivery. All chambers are serviced throughout their service life, some with remote maintenance.



The HAUX museum also exhibits historical diver's equipment



HEROSE self-experiment in the Karlsruhe pressure chamber, to the right: HBO employee Harald Barthel

Being true engineers, the HAUX brothers are permanently seeking for new challenges: one of them is currently posed by a leading German automotive manufacturer. Jochen Haux: "For this customer, we are constructing a burst chamber required for fuel cell testing." Second example: The German Aerospace Center (DLR) commissioned HAUX to build a vacuum lab to simulate a space mission to Mars.

No need to mention that all HAUX products are extremely critical with regard to safety. Suppliers are selected ac-

cordingly. HEROSE has been the leading supplier of safety valves for more than ten years. Jochen Haux: "These valves are like a life insurance for the persons inside the pressure chamber. We cannot take chances here. With HEROSE products, we know we can rely on quality." Markus Kühn of the Ludwig Sulzer HEROSE agency at Freiburg pays regular visits to HAUX. "The customer orders type 06216/06217 and 06380 safety valves for implementation in the pressure chambers." Read more about these valves at the bottom of the page.



Barthel operating the pressure chamber

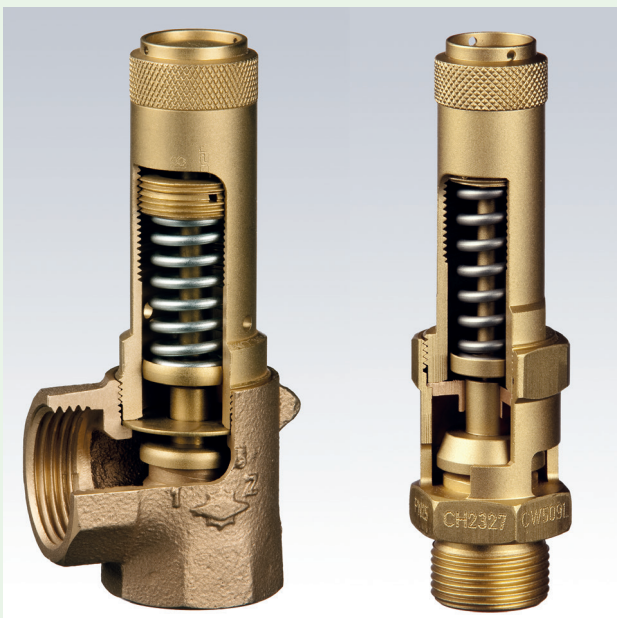


Stocked HEROSE valves



A HAUX pressure chamber for divers

## HEROSE valves



## Safety valves for compressed air vessels

HEROSE supplies a wide range of products for pressure limitation in pressure vessels such as a pressure chamber.

Depending on the flow rate to discharge, valves of the **06216/06217 series** (shown to the right) in sizes ranging from 1/2" to 2" can be used. These valves boast an optimum performance in relation to their height. In confined areas, the valve can also be installed horizontally.

These free discharging safety valves are approved for steams and gases at a pressure range of 0.2 to 30 bar. In cases requiring a corner safety valve, HEROSE offers the **type 06380** (shown to the left) in sizes ranging from 1/2" to 2" for a pressure range of 0.2 to 20 bar.

## “We expect a 5 to 10 percent growth”

HEROSE continues to be optimistic about the future / 140th company anniversary lies ahead



HEROSE Managing Director Dirk Zschalich in his new office



**Premiere at the beginning of 2013:** For the first time, the interview with HEROSE's Managing Director Dirk Zschalich takes place in his new office in the the new building.

**vc:** *What's your verdict on the new building?*

**Dirk Zschalich:** Since mid-December, when I moved to my new office, I have been enjoying our decision to build this annex every day. Not only because it finally offers my employees the space they need to work, but also because I regard it a symbol of our company's sustainability.

**vc:** *How much space was added?*

**Zschalich:** The new building is primarily used by our commercial departments. With an additional 1400 square metres, we tripled our office space. The upper storey not yet finished represents additional spare space. And our property is large enough to expand our production facilities if needed. In

other words: with regard to space, we are well equipped for the future.

**vc:** *Elbphilharmonie Hamburg, Berlin Airport – the term “new construction” immediately lets us wonder whether the building plans were kept – with regard to deadline and costs ...*

**Zschalich** (laughing): Apart from a 4 weeks delay in finishing caused by the cold weather in the pre-winter period, everything went perfectly well.

**vc:** *What departments exactly are located in the new building?*

**Zschalich:** These are: Management, Human Resources and Accounting, Purchasing and R&D.

**vc:** *What will happen to the old offices?*

**Zschalich:** During the last weeks, we had the upper storey renovated and reassigned, which primarily is a benefit for Sales and Marketing.

**vc:** *You mentioned it before: the new building is also a symbol for the*



The new building at twilight

*optimism with which you are tackling the next ten years ...*

**Zschalich:** ... and above all, it is a clear commitment to the Bad Oldesloe site. HEROSE has been producing in this city since 1921, at first in the old Danish dragoon stables at Ratzeburger Straße. In 1994, we moved our entire production to Bad Oldesloe, since 1996 we are located in the business park South-East. Since then, we expanded three times so that by now HEROSE



A panorama view of the HEROSE new building – with the distinctive skywalk to the old main building

has more than 11,500 square metres of production and office space. We tripled our turnover in the past ten years – and our employee count of presently 215 also marks a new record. I think, these are facts the city of Bad Oldesloe is glad to hear.

**vc:** *The new building was completed just in time for an important anniversary on April 1st?*

**Zschalich:** Correct. This day we will celebrate our 140th company anniversary. On April 1, 1873, foundry master Theodor Rose founded Th. Rose KG at Hamburg-Altona. HEROSE emerged from this company that mainly produced fittings for shipbuilding.

**vc:** *So there should only be happy faces this day ...*

**Zschalich:** In fact, our figures are something to be proud of. In 2012, we generated a record turnover of 45 Million Euros although the economy weakened in the second half-year. The US market in particular has grown rapidly because of the local LNG boom.

The same applies to India and China with our production site in Dalian. Here, we will continue to invest this year. Only Europe weakened slightly in 2012. The majority of products we sold are our LNG fittings. The cryogenic sector more and more turns into a top-selling business.

**vc:** *And what is the outlook for 2013?*

**Zschalich:** We expect a further growth of 5 to 10 percent. The demand in the LNG sector will remain at a high level; at the same time we expect the Industrial Gases market to recover.

**vc:** *Which new developments are to be expected?*

**Zschalich:** In the 2nd quarter, we will be launching a stainless steel safety valve for high pressures up to 250 bar for general industrial applications. To complement our product range, we will soon be offering a pressure regulator for stationary tanks. And let me mention a third example: a new DN 200 shut-off valve for the LNG sector.

We are also awaiting approvals from ship classification societies for expanding our marine LNG activities. HEROSE Ibérica S.L. in Barcelona, Spain, will be our new subsidiary charged with sales in Spain and Portugal and parts of South America. In addition, we will continue exhibiting on all major international fairs. For example, the “LNG 17” in Houston in April, the most important LNG fair in the US (see also page 7, *editor's note*).

**vc:** *And a few words about the internal HEROSE strategy adopted lately.*

**Zschalich:** It is also vital for a company of our size to regularly reflect more general questions not directly related with daily business. What is our direction, and what is our goal? There was no need to match our old strategy dating back to 2002 with changed conditions – the inherent objectives were simply met. “Mutually 2022” is the general roadmap into the future for everybody – shareholders, management and employees, but also banks and other stakeholders.

## “We need experts”

The “Manufacturing” department nearly halved the machine conversion times



A group picture of the early Manufacturing shift. 7th from right: Head of Department Mike Grimsehl

Spindle, housing, cone: By now, the Production team produces more than 450,000 parts per year. To this end, production takes place in three shifts on five days a week. Mike Grimsehl, Head of Department since February 1st: “If need be, we can also work on Saturday.” There are approximately 40 employees in the department, with Antonio Garcia, Martin Stuhr and Jörn Kadatz as responsible shift supervisors. Ingo Rothenpieler, Mike Grimsehl's predecessor, is now responsible for HEROSE's occupational safety and work preparation.

### Every employee can operate any machine

The department operates 14 Gildemeister lathes. Five of these are high-throughput twin machines, and there are seven CTX machines for smaller volumes and special orders, as well as two GMX machines for cast parts. 13 employees work during each shift. All of them are trained so flexibly that they can operate any machine. Most of them are trained cutting machine operators. Mike Grimsehl: “We need true specialists. It is essential to know which tools are required to machine a certain material – product

knowledge is of vital importance, in particular in the safety-critical low-temperature range.”

The fact that Mike Grimsehl is a member of HEROSE's Lean Management team is also felt in his new department. “To increase the inventory turnover ratio and to simultaneously keep the revolving stock as low as possible, we are today producing smaller lots than in the past”, he says. Still another example: While in 2009, converting all 14 machines took 150 minutes, this time has decreased to 90 minutes today. Grimsehl: “But this does not imply the employees today are more pressed for time than earlier; the progress is rather achieved by improved organisation.”

The products Manufacturing hands over to Assembling must meet the highest safety demands. Mike Grimsehl: “To ensure this, we run strict tests.” During the day shift, a prototype of each manufacturing order is approved by Quality Assurance, while the respective shift supervisors are responsible for this during the late and night shifts.

All lathes in Manufacturing are computer-controlled. The person responsible for software engineering is Maik Tolzmann. The trained cutting machine



Maik Tolzmann at the PC

operator and former Manufacturing shift supervisor has been doing this for twelve years. “I have always been interested in software engineering”, says the 44-year-old who acquired the expertise of his second profession by way of training seminars at Gildemeister and “learning by doing”. Depth of bore, outer diameter, thread pitch: all specifications the machines must comply with are laid down in a program. “At present, we are producing more than 2300 different parts”, says Maik Tolzmann. Programming takes between 30 minutes and a full working day, and standard software is used: Din Plus by Heidenhain and Sinumerik 840 D by Siemens.

# LNG 17 in Houston

HEROSE showcases its product range for small-scale LNG



HEROSE Booth No. 131



From April 16 to 20, Houston, USA, will be hosting the LNG 17, America's most important LNG fair. In a booth of its own, HEROSE will showcase the complete range for small- and medium-scale LNG plants. The fair agenda in detail:

**Ship fuelling:** complete package with controller, emergency shut-off valves, safety valves and manual cryogenic valves.

**LNG trailers and re-gasification units:** complete package of class 1, division 1, fire-safe valves with closure times of less than 3 seconds.

**LNG storage vessels and plant valves:** cryogenic valves including gate valves for full flow, control valves and fire-safe ESD valves.

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**Agent for Czech Republic and Slovakia**  
TRACCOM was founded in Chomutov, Czech Republic, in 1993. Since 1994, the company has been selling HEROSE products in the Czech Republic and Slovakia and has been supporting business in Russia and Ukraine since 2004. A special focus lies on the HEROSE LNG products. The company is headed by Vaclav Vlcek.

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**Agent for the Ukraine**  
The Ukrainian Cryo Inter Trading Ltd. is a service provider for safety and cryogenic valves. In March 2012, the company officially started selling HEROSE products in the Ukraine. In August 2012, a seminar held in Bad Oldesloe introduced the employees to the HEROSE product range.

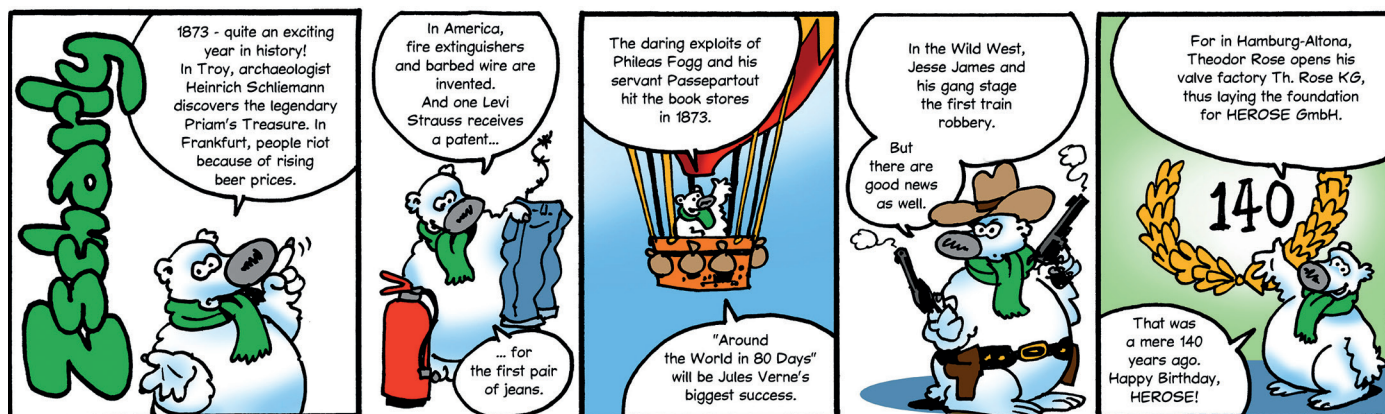
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Mr. Vaclav Vlcek during the Air Separators seminar in Odessa, October 2011



The Ukrainian team, from left: Denis Gusak, Alexei Slavutinskiy, Elena Kudryavtseva, Tatyana Kryukova, Igor Gubin



■ HEROSE optimises the access to certificates of safety and changeover valves: To offer optimum access to product-related certificates such as CE Certificate, VD-TÜV Type Approval Mark, Declaration of Conformity, and Operating Instructions, we provided links to these certificates directly on the product page. These links are located to the right, below of the download link for the product data sheet.

■ Bursting discs are now available in stainless steel and brass to optimally serve different applications. The burst plates are options for type 06510, 06512, 06520 and 06530 divertor valves, and type 06401 and 06405 divertor valves, but are also available separately.

Fairs calendar

**GAS TURKEY**, Istanbul, **Turkey**  
March 28 to 30, 2013

**CGA 100th Annual Meeting & Centennial Celebration**, Arizona, **USA**  
April 7 to 12, 2013

**LNG 17 2013**, Houston, **USA**  
April 16 to 19, 2013

**WIN Metal Working**, Istanbul, **Turkey**  
June 6 to 9, 2013

Congratulations to...

... on 10 years of service

- Gunnar Dabelstein** on May 1, 2013
- Anne Schiemann** on May 5, 2013
- Sören Thele** on May 13, 2013
- Olaf Greb** on June 1, 2013

... on 25 years of service

**Achim Schiemann**  
on July 11, 2013



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# Supplier audit by Chart Ferox

All HEROSE processes were examined during this audit



(From left): Thorsten Cordes (HEROSE), Vaclav Vlcek (Tracom), Zuzana Jirsáková (Chart Ferox), Sonja Barkmann (HEROSE), Martin Štěpanovský, Tereza Klánová (all Chart Ferox), Ralf Dankert-Paulsen (HEROSE)

In November 2012, Chart Ferox performed a supplier audit at Bad Oldesloe. During the audit, all processes of Procurement and Production up to Dispatch were examined at HEROSE. The

audit took place in the context of the customer's ISO 9001 certification. The audit could be completed on the same day because all questions were readily answered by the QA department.

# AIIGMA: award for Keith Stewart

Managing Director of HEROSE Ltd. gave best paper

Strategic Planning for Sustainability in the Industrial Gas Business: this was the theme of the 35th seminar of the "All Indian Industrial Gases Manufacturer's Association (AIIGMA)" in Singapore. At the event, HEROSE presented its product range, and Keith Stewart, Managing Director of HEROSE Ltd. and responsible for marketing HEROSE products in many parts of Asia, presented a noteworthy paper entitled "LNG – The Licence to Operate Safely". He was awarded a prize as best speaker by Saket Tika, President of AIIGMA. The next AIIGMA event will take place at Thailand's capital Bangkok.



Saket Tika (l.) awards Keith Stewart

## Win one of 5 VICTORINOX knives & multitools

HEROSE GMBH celebrates the 140th anniversary on

- A** July 7, 2013
- B** April 1, 2013
- C** August 1, 2014

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There is no legal right of appeal



**Congratulation to the winners of James Bond's Skyfall**  
**Agnes Polkowski**, Heute + Comp GmbH, Radevormwald, Germany  
**Carsten Lauritsen**, Dansk Ventil Center, Vejle, Denmark  
**Jan Folta**, Taylor-Wharton Slovakia, Košice, Slovakia  
**Tamás Csupor**, Linde Gáz Magyarország, Répcelak, Hungary  
**Stanislav Zaloudek**, Air Liquide CZ, Prag, Czechia