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Information for customers and partners

Article

Safety valves in silo vehicles

Meetings

International agents' conference at HEROSE

Technology

New safety valves, new slide valves

Trauma

Wrong products, wrong operation: continue to cause serious accidents



Shiny: A view in the Feldbinder production facility

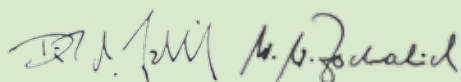
Editorial



Dear reader,

we could tell you as much as we like about our products, but theory remains theory. Therefore we have visited two of our largest purchasers of safety valves, to give you an impression of the practical aspects - which as everything else in life, is much more impressive. A second main topic in this issue is the report on our agents' conference, which was more international than ever. This also benefits you indirectly, because our products and you yourselves profit from the intensive exchange of ideas between the many HEROSE experts.

Enjoy your read!



Dirk M. Zschalich, Wilfried W. Zschalich
Managing partners

Shaken and stirred: HEROSE safety valves in silo vehicles

Whether building materials, foodstuffs or animal feeds, they are transported in the specially constructed vehicles which we meet on the roads every day. Even when such vehicles are being built, safety has a high priority. The most important manufacturers of these vehicles in Europe are the firms Feldbinder and Spitzer. Both companies have been HEROSE customers for many years. From Bad Oldesloe, they obtain series 06505 safety valves, which are produced in four nominal diameters of between one and four inches. Silo vehicle manufacture in Germany with Europe's leading manufacturers. valvescommunity took a look behind the scenes.

Feldbinder: quality even with the smallest components

At the latest with a glance at the vehicle delivery park in Winsen/Luhe, guests of Feldbinder Spezialfahrzeugwerke GmbH (FFB) can see that they are visiting a successful company. As every day, on this particular Monday there is a great deal going on. Vehicles are being moved, cleaned and the finishing touches made. And then they are closely lined up to await dispatch. Up to 15 silo trailers leave the factory in Winsen every day. Feldbinder GmbH is one of Germany's market lead-



Feldbinder SF 2745 silo truck

ers in the construction of special vehicles. The company's production is located on three sites with a total of about 1,300 employees - in Winsen/Luhe, in Lutherstadt

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Wittenberg and in Sutton Bridge in U.K. The main factory in Winsen, where about 550 people work, mainly produces silo semitrailers and tipping silo semitrailers. The aluminum containers are suitable for all silo products such as flour, wood pellets or PVC granules. Rainald Schulz, head of design engineering and production with Feldbinder in Winsen: "Normally the trailers have a total weight of 40 to 44 tons. However, we also build trailers with total weights of up to 60 tons for the Scandinavian region."

For Feldbinder, the safety of its products has the very highest priority. "For example, we trained all of the 90 aluminum welders who are employed here ourselves", said Schulz. Welding aluminum, is not so easy - but perfect seams are essential for the safety of the containers. Of course, prior to delivery the containers are subjected to a pressure test (with a water pressure of 3 bar), and even for relatively small components, Feldbinder has used tried and tested products for many years: namely safety valves from HEROSE. Rainald Schulz: "With over 90 percent, HEROSE is clearly our main supplier in this field. We have never had any complaints about the deliveries - which is probably the greatest possible compliment to HEROSE quality."

In addition to the well-known quality of Feldbinder products, the short delivery times are also a competitive advantage. Rainald Schulz: "On average it takes six weeks from placing an order with us to delivery."



A tour of the Feldbinder factory



Type 06505 to protect the outlet pipe of a silo trailer

HEROSE safety valves are continually being further developed

Silo trailers can be emptied either by their tipping function or with the aid of a separate compressor on board the tractor unit. Emptying with the compressor is usually carried out with 1.8 bar compressed air. Because of this, the emptying pipes must be equipped with safety valves. For this, HEROSE offers the type 06505 safety valve, with four nominal diameters from 1" to 2". A special feature of this series is that they are approved for media in liquid,

granular and powder form (F/K/S approval). To ensure functionality for the critical use with grains and powders, the safety valve is fitted with both a soft-sealing plate ① as well as a membrane ② between the blow-out space and the spring cavity. In addition, the safety valve is equipped with a stainless steel protective cover ③, so that in case of blow-off, the environment is protected against escaping compressed air carrying the medium. In order to cater for

the increasing demands of the market, HEROSE has continued to further develop the 06505 type. For one thing, the range of operating temperatures has been extended from -25° C to -40° C e.g. to enable the use of the trailers in Siberia; and in addition, the blow-off capacity of the valves has been adapted to cater for increasing compressor powers.



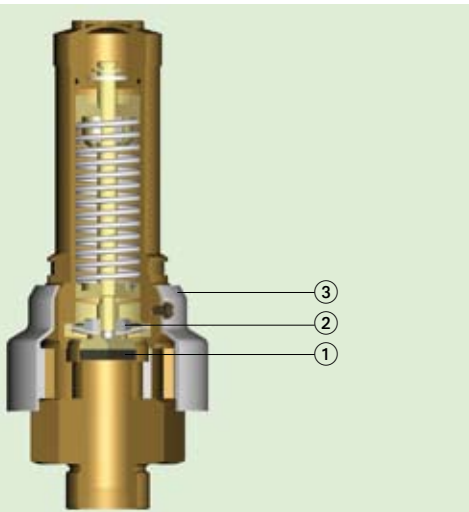
Spitzer SK 2745 CAL silo truck



Spitzer SF 2745 silo truck



Detailed view of type 06505



Spitzer: New technologies for tomorrow's markets

Throughout the world, the name Spitzer stands for high-quality durable silo vehicles for transporting granulated bulk products.

Founded in 1872, Spitzer pioneered the fabrication of aluminium containers for silo vehicles. In 1950 the very first silo vehicle for transporting cement and soda was designed and built by Spitzer. At the end of the 60s production was concentrated entirely on the production of silo vehicles. Since then, more than 100 patents and industrial designs have been registered.

The main factory in Elztal-Dallau has a total area of 40,000 square metres, which together with the four other production sites in Germany, France and Hungary

is being continuously expanded. In total, the group of companies employs over 800 people.

Every year about 1700 silo trucks leave the factories of the Spitzer group. Each order for a Spitzer vehicle is worked out in close cooperation with the customer and individually built according to the customer's particular wishes and requirements. This close cooperation guarantees Spitzer customers a silo vehicle of the very highest quality and durability combined with a high payload and low weight. In 2006 Spitzer presented another innovation - a carbon fibre-reinforced plastic container with a volume of approx. 60 m³. Ten vehicles are now undergoing test operation throughout Europe.

HEROSE, from Bad Oldesloe, has been Spitzer's trusted supplier of the necessary safety valves for many years. Spitzer, which has long been the market leader in Europe, is completely satisfied with HEROSE safety valves.

Throughout the world, Spitzer is represented by many branches, agencies and franchises



type 06505 on Spitzer prototype

Guests from all over the world at HEROSE GMBH



Premiere at HEROSE: Whereas only partners from Europe took part in previous agents' conferences, in April this year participants from all over the world came to Bad Oldesloe and Norderstedt for the two-day event - proof that the international market is playing an increasingly important role for HEROSE.

After the participants from 16 countries had been greeted by the managing partners Wilfried and Dirk Zschalich, on the first day the members of the conference briefly introduced themselves and gave an impression of the sales situation in their own countries. During a comprehensive tour, the guests got to know the company in detail. In the afternoon, the programme included information about new products in the low temperature field, such as the 01420 Coldbox valve or the 0934X low-temperature slide valve.

Although the first day's events were held at the company headquarters in Bad Oldesloe, on the second day the meeting was held at a conference hotel in Norderstedt. HEROSE authorised signatory Joachim Ehmke: "Here application examples and sales and marketing strategies were discussed."

Apart from all the concentrated work, there was of course also time for social gatherings. On the first evening the representatives enjoyed themselves by going bowling together. For guests who were visiting Northern Germany for the first time, HEROSE provided an opportunity for a guided tour of Hamburg.

The summary by Dirk Zschalich: "This agents' conference was a complete success. On the one hand, events of this kind help to reinforce the feeling of belonging to a group. On the other hand I was very pleased that our representatives made use of the opportunity for an intensive exchange of ideas. They often have to deal with the same large companies such as Air Liquide, Linde, Air Products and Praxair, which are all globally active. Because of this it is always helpful to know about dealings with each other in the particular countries."



Guided tour of the city at the Hamburg town hall



Wilfried Zschalich during the inspection of the company, with W. Marynowski, M. Ferenci, A. de Bernardi, R. Dorner



A really good finish of the Hamburg tour with a traditional fish meal at the harbor



Type 0642X safety valve**We can also do things differently**

What a shock: with the previously used safety valves to protect fixed cold gas evaporators against heat expansion, the full-stroke opening characteristic causes sudden opening even with purely thermal expansion. This process causes a loud noise, which often causes trouble. There are often complaints from the inhabitants of neighbouring residential areas and hospitals - as well as from the drivers of cryo-trailers, who are shocked by the loud bang.

We can also do things differently! To complement the previous type 06388/06418, HEROSE has developed the 0642X safety valves, which initially open proportionally up to a thermal expansion of 11kg/day, and only open completely if there is a larger blow-off volume. At HEROSE, this is referred to as "quiet opening". The 0642X series is available in the nominal diameters G1/2" to G 1 1/4". The flow diameter of 14 mm and 18 mm can be used for pressures up to 40 bar, and the flow diameters 7 mm and 10.5 mm are even approved up to 50 bar. In contrast to the tried and tested design of the 06388/06148 type (PTFE plate sealing into a taper), the plate of the 0642X series is made of PCTFE and seals flat. The conversion from taper sealing to flat sealing is due to the normal stroke opening characteristics, and the PCTFE material is necessary in order for the flat-sealing plate to be used at triggering pressures of 40 or 50 bar.

Low temperature slide valve 0934X**Faster and better**

After a development time of one year, in the next few weeks HEROSE will be bringing the 0934X low temperature slide valve onto the market. This is for use in the filling lines of fixed cold evaporators and in cryo-trailers. Their advantage compared with classical shut-off valves: Due to the lower loss of pressure in the valve, they enable considerably shortened filling times for the container.

The slide valve is only offered in the stainless steel version (1.4301) with nominal diameters DN40, 50, 65 and 80, and is obtainable either with manual or pneumatic drive.

The new valve was developed at the wish of both the British Linde subsidiary BOC, and Air Products UK. At Air Products, the first prototypes have now been successfully tested in cryo-trailers.

Safety concerns regarding sealing are unnecessary. Just like its classic predecessor, the new valve fulfills the leakage rate A according to DIN EN 12266 T1.



Safety valve 06425 with actuator,
Safety valve 06420 mit cap



Schieber 09340 DN 65 with handwheel,
Schieber 09340 DN 40 with handwheel,
Schieber 09340 DN 40 with actuator

Repeated serious accidents

Operating errors, incorrect maintenance and the used of the wrong valves cause accidents almost every week around the world, which fortunately usually have an outcome which is not too serious. However, there are occasionally serious accidents, which endanger human life and cause damage costing millions. valvescommunity has taken a look in the archives and describes four typical cases from past years, which have occurred on various continents. For reasons of discretion we have deliberately avoided giving closer details of the locations or the names of the companies involved.

**Excess pressure when filling cold evaporators**

In the 90s, a liquid gas container exploded due to excess pressure and severely damaged the factory. The explosion was caused by the use of inadequate safety valves in the filling lines and on the container. They did not provide adequate protection against the excessive pumping pressure of the trailer which occurred during the filling process.

As a result, the authorities compelled the gas manufacturer responsible to investigate the accident together with officially appointed engineers to find short, medium and long-term solutions, and to implement these initially in Europe and subsequently world-wide. The total cost of the accident came to over 150 million Euro - a sum which would ruin many companies.

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In order to prevent such accidents in the future, every cryo-container should now be equipped with adequate safety valves and burst plates, and a safety valve to limit the pressure in the filling line between the trailer and the container. In Germany, the use of these pressure-limiting rapid closing valves is now a legal requirement. This even applies if the designed pressure of the container is greater than the maximum possible pumping pressure of the trailer, because in order to shorten the filling times of the containers, manufacturers have continually increased the pumping power. Therefore there is a latent risk for all cryo-containers.

In this connection, HEROSE offers e.g. a combination of the type 06510 change-over valve with type 06388 safety valves, which if necessary can be supplemented by the rapid-closing MG-97 valve from Air Liquide (a joint venture product of Air Liquide and HEROSE).

Faulty maintenance of safety valves

In 2005 at a US company, the triggering pressure of the safety valves was incorrectly set during maintenance by an external company.



As a result, the contents of the cryo-container overflowed and caused severe damage to the factory. Because it was not known which safety valves had been serviced by the external company, it was decided to replace the safety valves on over 6,000 tanks across the country. The costs of this safety measure amounted to more than 4 million Euro.

There are two possibilities of avoiding problems of this kind. Firstly of course, the correct selection and installation of the valves. Secondly, it should also be considered whether replacement would be a better choice than servicing the old valves. Many gas manufacturers have reduced their costs by only using new valves. Here, the use of approved valves was a priority, and the costs of the entire cycle of use were taken into account.

With regard to this, HEROSE offers the series 06388 safety valves, which

are also approved for the US American market. Because of its good long-term experience with HEROSE safety valves a major customer in Great Britain has increased its inspection intervals to 6 years. This brings a saving in costs of approximately 250,000 Euro per year.

Fire due to non-certified LNG shut-off valves

In 2004 a large fire occurred in China because the production of an LNG plant could not be shut down due to a leak in a pipeline. As a result of the fire, not only the factory had to be abandoned, but also the adjacent building had to be evacuated. The fire was established to have been caused because the valves which had been used were not fireproof and were not certified according to EN 10497. Subsequently, changes were made to Chinese law with regard to the selection of equipment for critical fields of use. The necessary conversions cost an estimated 20 million Euro. This scenario makes it clear that valves in sensitive areas of the plant should not only be fit for purpose, but should also possess all the prerequisites to enable the

All for England - one for the world



Alan Stewart, Barry Stewart, Jane Stewart, Keith Stewart, James Bowman

For six to eight months per year he travels the world for HEROSE: Keith Stewart, 55, responsible for sales in the Near and Far East, Africa and North America. At the same time he is the boss of the subsidiary company HEROSE Ltd. in Finningley near Sheffield, which is responsible for the sales of HEROSE products in U. K. Although this keeps the trained mechanical engineer busy, his job still gives Keith Stewart a great deal of pleasure. "For one thing, with HEROSE products I can offer excellent quality - and I simply like to travel. I am fascinated by foreign cultures, meeting interesting people and the continuous challenge of being a successful salesman even in foreign areas."

plant to be shut down. Customers are certain to be on the safe side if they select "fire-safe" approved valves compliant with EN10497. For these applications HEROSE offers the series 01741 shut-off valves.

Faulty repair of changeover valves

Of course, safety valves can only protect cryo-containers against excess pressure if the upstream changeover valves function correctly. This was not the case in an Australian company in 1993. The changeover valves had been incorrectly serviced and therefore did not provide the necessary flow cross-section. Because of this, more than 1800 cryo-containers had to be temporarily taken out of operation so that the safety systems could be checked and replaced where necessary. The costs of this safety measure amounted to more than 1.6 million Euro.

In such cases it should be considered that while the correct selection of valves is of course important, it may make more sense to replace old valves rather than to service them. For this, HEROSE supplies the 06510 series changeover valves.

Cracked pipes, icing and impurities

As well as the examples above, there is also a whole series of other practices which can cause serious damage.

Cracked pipes through hammering:

Attempting to release iced-up couplings between the trailer and the cryo-container during filling by means of hammering, may result in cracked pipes.

Icing of valve systems:

If it is not ensured that pipes and couplings are not free of water and condensation during the filling process icing of the valve systems may result.

Impurities in the piping system:

If the valves are not correctly cleaned and degreased, the downstream systems may become contaminated. This is especially critical in the case of oxygen systems.

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Polish agency

Over the past years, double-figure growth rates have been normal for ARKO in Warsaw, who market HEROSE products in Poland. Wojciech Marynowski, 59, founded the company in 1995. Now his son Michal, and Sebastian Rowinski also belong to the Warsaw team. "HEROSE low temperature products are in particular demand", says the senior manager, "but we are increasingly making efforts to promote the field of industrial valves." ARKO has about 100 HEROSE customers in Poland - as well as the large companies in the sector such as Linde, Air Liquide and Messer, this also includes laboratories and scientific institutes.

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Michal and Wojciech Marynowski,
Sebastian Rowinski

Bulgarian agency

"Bulgaria's membership of the EU has made our business considerably easier", says Georg Georgiev. Together with two employees, the 50-year old head of the import department of the firm Incoves in Varna is responsible for the sale of HEROSE products in Bulgaria. He will also be at the trade fair in Plovdiv at the end of September, at which HEROSE is participating for the third time. This trade fair was the foundation of HEROSE's success in Bulgaria.

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HEROSE Sales Manager J. Ehmke,
Incoves Managing Director V. Pavlov



Georgi Georgiev, Luben Hrishev



In brief

- HEROSE was once again categorised as a Q1 supplier by the Deutsche Bundesbahn
- Successful training of our Czech factory representatives and staff of Linde, CZ



Participants of the Spiral&Linde training

- HEROSE successfully completed an audit by BOC in Bad Oldesloe
- HEROSE successfully completed an audit by Chart Ferro in Bad Oldesloe
- The firm of Wacker-Chemie in Burghausen was authorised as the factory representative
- Internal spring testing is now possible with three new computer-controlled spring balances with a measuring range of up to 20,000 N
- A new member of the HEROSE family: Sabrina Kröger is delighted about the birth of her son Lenny Noah. Congratulations!

Fair calendar

ITM Poland

Posen, Poland, 09. to 12.06

MSV

Brünn, Czech Republic, 15. to 19.09.

ITF

Plovdiv, Bulgaria, 29.09. to 04.10.

Pumps + Valves

Antwerp, Belgium, 15. to 17.10.

Congratulations to

Celebrating 10 years of service:

Melanie Benn on 1.08.2008
Sabine Helms on 1.08.2008

Masthead

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The next issue
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Certified for China

HEROSE has achieved a further milestone in the expansion of its business with China. In a process which took more than a year, all types of HEROSE safety valves were certified for the Chinese market. Therefore the way to both the low temperature market and to general industrial applications is now open to HEROSE. The "China approval" mission started at the beginning of 2007 with the creation of a QM manual specially designed for the requirements of the Chinese market - 40 pages thick, but fortunately in English. In the course of the certification procedure, samples of safety valves from all series were sent to a SELO testing laboratory near Beijing. In the presence of HEROSE employee Michael Bentz, who happened to be supporting the sales office in Hangzhou, the valves were tested, and any discrepancies were clarified locally. After this, in December 2007, HEROSE was audited by three members of the CSEI China Special Equipment Inspection & Research Institute). Over three days, the three inspectors thoroughly examined the production



conditions and the QM system on site, and subsequently gave the go-ahead for the approval. On 4 March 2008 this was then granted to HEROSE - initially for a period of four years. All safety valves for the Chinese market are now labelled with the certification number TST700A10-2012. The total costs of certification for HEROSE were about 35,000 Euro.

One of us: Wolfgang Lenk

Next year he will be celebrating his 40th anniversary with the company: Wolfgang Lenk, 53, Production Manager at HEROSE. The trained toolmaker deliberately pursued his career aims. In 1980 he took his examination as a master craftsman. He then managed a HEROSE subsidiary, the firm of R.A. Wiecking in Hamburg for two years, and since 1999 he has been responsible for



a large proportion of the operation and 135 staff in Bad Oldesloe. Wolfgang Lenk: "I am responsible for personnel management in my department, as well as for the materials and building management and machine planning and purchasing." The father of two daughters prefers to spend the small amount of leisure time which he has with his family, and with jogging, swimming and cycling.

Win a JENOPTIK digital camera!

From how many countries did the participants of the HEROSE agents' conference come?

- A from 6 countries
- B from 10 countries
- C from 16 countries



Send the correct solution by fax or by mail

win@valves-community.com Fax: +49 4531 / 509 120
or on the website valves-community.com

Deadline for answers is 31st August 2008. No right of appeal.

The winners of the EM 2008 goal walls: **Alexander Heise**, Hamburger Sparkasse, **Tamas Toth**, Air Liquide, Budapest, **Brigitte Stüben**, Fritz Barthel, Hamburg, **Tobias Fresenius**, Konrad-Adenauer-Stiftung, Berlin, **Julia Lindau**, HEROSE