

# KÖNIG + CO. GmbH

## Looking for excellence

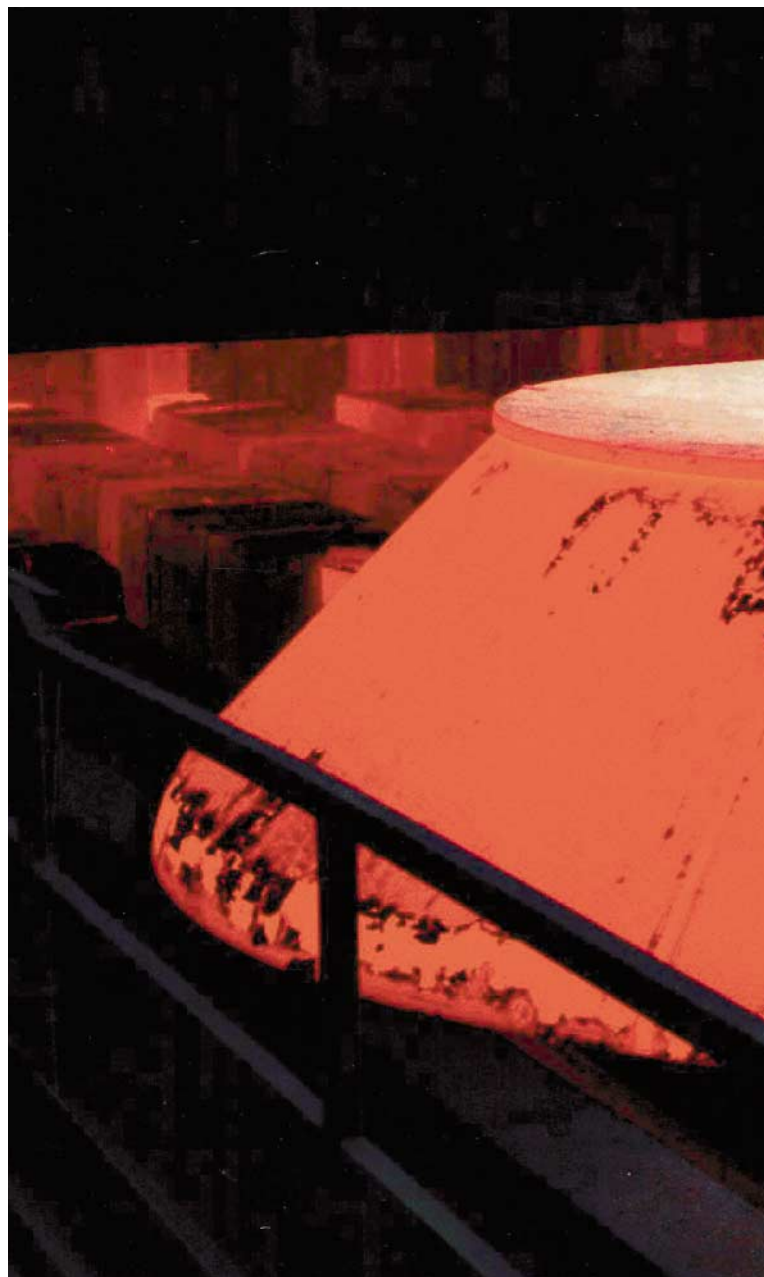
by Estber Martensen and Michael van Wijngaarden

In the centre of Germany, in an area traditionally known for its iron manufacturing industry, a successful fabricator of vesselheads, special pressings and associated products, has been in business for over 70 years. Stainless Steel World met with Mr Jochen König, one of the General Managers of KÖNIG + CO. GmbH, and spoke with him about the company, its wide product range and expectations for the future. What sets this company apart from the competition?

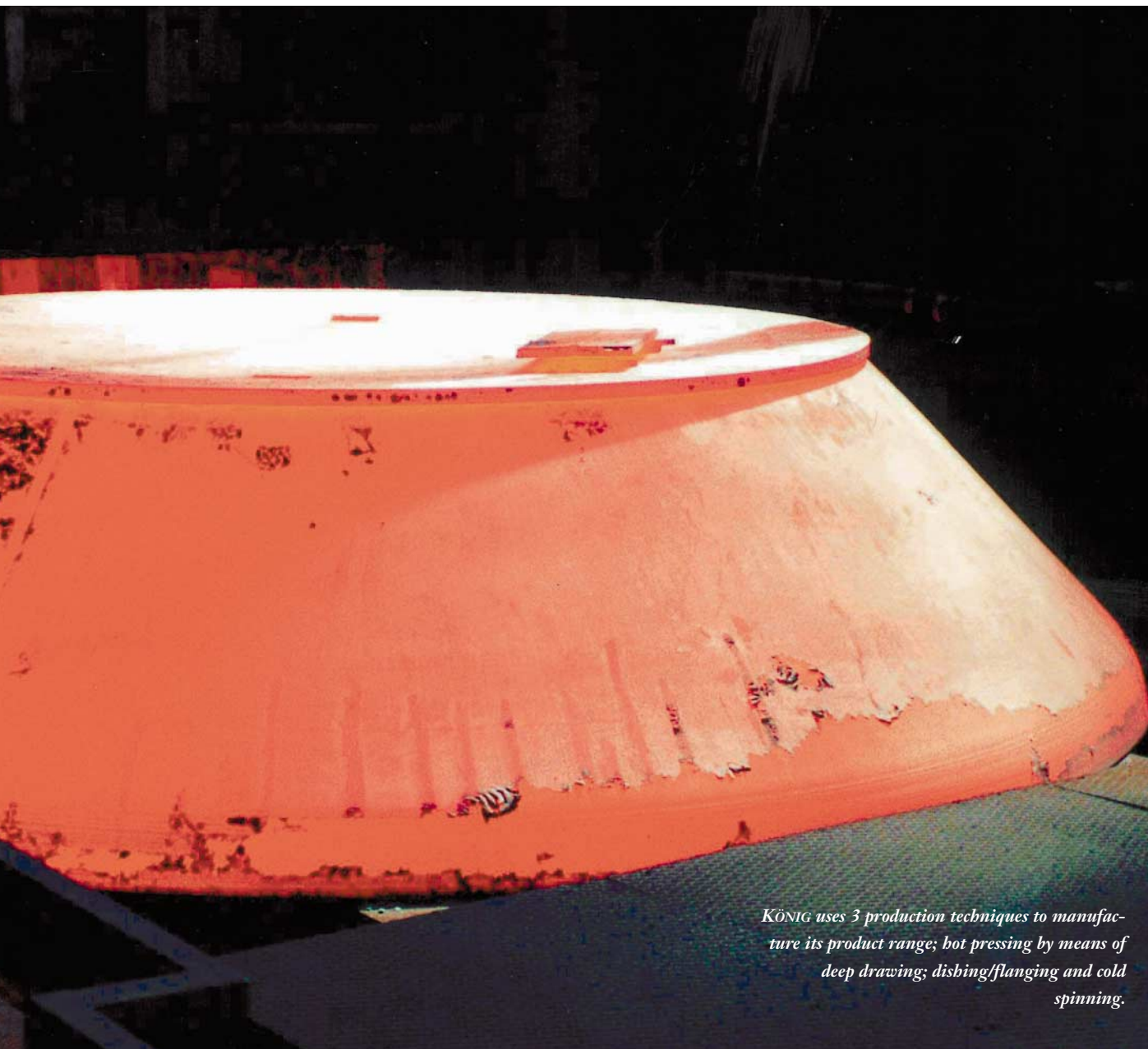
With three production plants and a total of 228 employees, KÖNIG + CO. GmbH is a leading manufacturer of vesselheads/dished ends, cones and special pressings for vessel, tank and plant construction world-wide. Since its establishment in 1930, the family-based company has been located in the centre of Germany, with three plants today, in Netphen, Siegen and Hockenheim. The plant in Siegen concentrates on cold forming of stainless heads and aluminium, the Hockenheim plant specialises in aluminium heads. The main plant in Netphen has his focus on all kinds of material such as carbon steel, stainless, duplex and super duplex as well as special materials like nickel alloys, titanium and claddings. The company is led by general managers Mr Bernd König, Mr Jochen König and Mr Günter Jung. They, together with the majority of their employees, have been active in constructing vesselheads for many years and KÖNIG therefore boasts a vast amount of experience in this field. KÖNIG products can be found all over the world and can be delivered according to all common design standards. Mr Jochen König explains that the company philosophy is simple: "If you want to be successful you need to excel in what you do. You need to make a good product, which can only be manufactured by a professional and engaged team. In all management decisions, we bring these factors into the equation. We are sure that this is the only way we can be a long-term reliable partner to our clients and a market leader delivering top products."

### PRODUCT VARIETY

The first products to catch the eye when you enter the KÖNIG facility, literally speaking, are the large vesselheads, some of which are the size of a small building. However, KÖNIG's expertise goes far beyond these showpieces. The



company can do cold and hot forming of all ductile steels, including carbon steel, stainless steel, duplex, super duplex, aluminium alloys, nickel-based materials as well as titanium, zirconium and tantalum. The range of heads encompasses diameters of 21.3 mm to 12 m and thickness ranging from 2 to 250 mm, welding constructions which combines the know how of forming and welding, e.g. head completely delivered with flanges, clips and nozzles according drawing. Another important service and KÖNIG's core business are the special pressings, such as turbine housings, pump cases or cover sheets. KÖNIG uses 3 production techniques to manufacture this product range; hot pressing by means of deep drawing; dishing/flanging and cold spinning. Combined, these production techniques make possible the enormous variety in products. Mr König: "We have 438 properties to describe a head, including dimension, forming, material, surface treatment, testing, transport and packing. This means, in theory, we



*KÖNIG uses 3 production techniques to manufacture its product range; hot pressing by means of deep drawing; dishing/flanging and cold spinning.*

can offer more than 1 billion different articles. Therefore, a thorough working method from the first quotation up to the final delivery of the products is essential, all to ensure that the customer receives the right product at the right time and at the right conditions." KÖNIG can manufacture these products according to all common design standards, such as ASME (U and U2 Stamp holder), PED, AD, CODAP, PD 5500, DNV, IBR, to name just a few. Since 1992 the quality system of KÖNIG has been certified according ISO 9001. This wide range of possibilities makes it possible for KÖNIG to provide solutions for even the most unusual demands. Mr König: "Since May 2002 we are able to manufacture a head of 6 m head of 60 mm plate thickness in one part. We also have an excellent know how in the forming, welding and heat treatment of special metals for vesselheads as well as special pressings." He continues: "However, we hear from our customers that the most important reason why customers select KÖNIG as

their supplier is not necessarily these special products and materials but simply our extensive product range, the quality of our products, our experienced staff and our excellent service record."

#### **KÖNIG'S MARKETS**

These clients include end users and manufacturers from many different industries, all with different demands. Clients for the vesselheads stem from the chemical and petrochemical industry, onshore and offshore, the pulp and paper industry, the pharma and the power industry. KÖNIG also makes heads for vessel manufacturers of high-pressure equipment, storage tanks, tank and bulk vehicle and railway tank waggons. With the special pressings KÖNIG can satisfy requirements from machine manufacturers, such as pump and turbine fabricators. Initially, the company operated only on the German market, but since the 1960s, the export market has become increasingly important. However, Germany



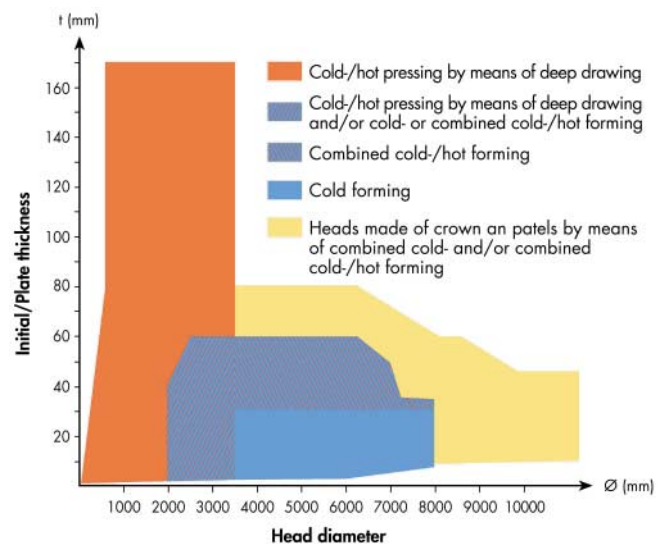
*Hot pressing of a hemispherical head Øi 1600 x165 mm.*

and Western Europe are still the company's main markets, for a very simple reason. It is quite expensive to transport heads, especially the very large ones, around the world. This means that in most cases clients will order standard heads from a local supplier, if at all possible, to keep the costs down. It is possible to ship even the very large heads to anywhere in the world, but it comes at a price so it is only worthwhile if it concerns a special type of head that manufacturers closer to the client cannot make. "We have actually shipped heads to Iran by cutting them in 2 halves and shipping them in containers. Onsite, the halves were welded back together," Mr König says. When asked what he feels are the most essential demands from his clients, in addition to the price and quality of the heads, Mr König answers that he has experienced over the years that his clients highly value the relationship between supplier and customer. Past experiences, trust and service are crucial. "That is why we aim to be so client-oriented. In everything we do, we ask ourselves what is the best solution for our customers. The clients tell us basically what we have to do for the future. We just have to put our ear to the market, listen, and act accordingly." An example of this service-oriented mindset is provided by the company's extensive testing facilities. König has a fully equipped material test laboratory to perform almost any type of non-destructive or destructive testing a client could request. Mr König: "Sometimes clients want us to perform tests which, strictly speaking, may not be necessary according to the concerning rules. Of course we perform these tests anyway if this is their wish, for example because their final customer demands it. We see it as an extra service we can offer." Another example is the permanently enlarged stock of finished products. KÖNIG stock consists of vessel-heads (torispherical and semi elliptical shape) in stainless steel (1.4301/SA-240 304, 1.4404/SA-240 316L, 1.4541/SA-240 321, 1.4571/SA-240 316TI) and carbon steel (P265GH/SA-516 Gr. 60) with a diameter between 21,3 mm and 2000 mm, with a thickness ranging between 3 and 15 mm. That this strategy of listening to the customer pays off becomes evident when you realise that relations between

KÖNIG and some of its clients date back all the way to 1930, when the company was established.

**PEOPLE CRUCIAL**

Mr König is sure that this high level of service toward the clients can be accomplished only if the General Management of KÖNIG + CO. GmbH provides their employees with a modern and enjoyable working environment, where their ideas and opinions for improving KÖNIG products and their workplaces are taken seriously. He knows that this is the only way to make sure that the client receives the quality products and quality service they expect, and the only way to be successful in the long run. "The people who work here truly enjoy their work and are proud to be a member of the KÖNIG team. That is crucial to us. Customers can sense this and it gives us a lot of confidence in our company. It is impossible to be successful if your employees are not 100% behind you and your product. To make these top products and to survive in the long-term in this market, we need employees who are committed to our company and our products." Mr König continues: "Besides to describe the vision and the goals of the company it is the main task of a management team to let the employees have their own place where they feel recognition and trust. This creates a mentality for success in the company. We try to live up to this every day and I think we are successful. A lot of our customers confirm us that all people who work here truly appreciate what they are doing and that it shows."



- Notes:**
- Max. diameter and plate thickness are depending on the form resistance strength of the used material!
  - Larger diameter and plate thicknesses on inquiry!
  - All forming procedures can be combined with a following material grade specific heat treatment (max. temperature 1.200 °C)!

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**CONSTANT IMPROVEMENTS**

With the help of these employees, KÖNIG constantly works on improving production methods and efficiency. The company has, for example, developed a lot of tools for “quick tooling”. This means machines can be adjusted to different shapes and sizes of heads very quickly, servicing the clients even quicker. At the moment, the company is also involved in research to determine how to improve the forming process of the very thin heads between 3-5 mm plate thickness. Mr König explains: “The production process of thin heads needs a lot of work cycles combined with several tool changes to reach a perfect surface of the sphere. This makes the manufacturing process extremely time-consuming. We are currently investigating production methods to reduce this process time.” Another example of a new production process KÖNIG has been working on is the hot-spinning of very large heads, up to 8 m, in one piece. To do so, it redesigned one of its machines and



*Spinning of elliptical head 2:1 Øi 3.600 x 12 mm.  
Material: Titanium Gr. 2*

as a result, the machine can now spin heads up to a 6 m diameter with a plate thickness of 60 mm or a 6.5 m diameter with a plate thickness of 50 mm. A third example is the investment in new welding equipment, a method that combines plasma welding with TIG welding. Mr König: “Through this method, we can achieve a thickness in one layer depending on material of grade up to 12 mm. With plasma welding only you can go up to 8 millimetres in one. If we can make the weld in one pass, this investment will save time and increase the quality of the product.” Largely as a result of these constant improvements in its production processes, annual turnover for KÖNIG has grown from EUR 15 million in 1995 to 30 million today. Mr König says that the company’s target is to continue to grow steadily, to an annual turnover of 35 to 40 million. “We try to achieve this is not by increasing volumes or capacity but mostly by increasing effectiveness of our production process, for example by investing in machines like the ones I men-



*Dishing of stainless steel head.*

tioned before. We will continue to concentrate on making the product range that we are best at and doing it even better in the future.” For this future, Mr König foresees that the domestic and European market will remain the most important ones. However, the company will try to focus more on the emerging Eastern European markets, such as Poland, Czech Republic, Romania, Bulgaria, and especially Russia and former Soviet states as well. “These could become more important to us, at least, if their infrastructure improves.” Summarising, one could argue that what sets KÖNIG apart from the competition is clearly the combination of a wide product range, the excellent service the company offers and, most importantly, the people who stand behind what they are doing. As Mr König puts it: “We have all faith in the future, we think we can do what we set out to do because we have good products, made by people who are constantly looking for excellence.”



**FACTS & FIGURES**

Name:	KÖNIG + CO. GmbH
Personnel:	228
Activity:	manufactures of vesselheads/dished ends, cones and special pressings for vessel, tank and plant construction.
Turnover 2002:	EUR 30 million