

Customer Satisfaction Survey during EMO in Hanover

During EMO 2011 we carried out a satisfaction survey for our national and international customers. We took this opportunity to find out further potentials and improvement possibilities for our sales and service offer. The survey included a total of eleven questions regarding project planning and order processing in the sales and service division.

We are very satisfied with the survey's result. However, we are aware that this positive rating represents a commitment to the permanent advancement of our capability. Only by constantly checking the current state we can meet the market requirements in the future as well.

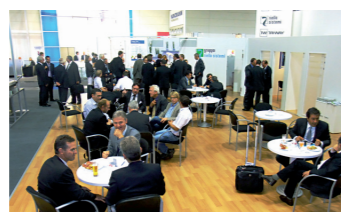
According to the results we could determine room for improvement in only four of the eleven requested sectors. All these sectors have been analysed systematically and improvement opportunities able to realise at short notice

were implemented immediately. Medium and long-term targets were discussed in the individual departments and will be implemented step by step.

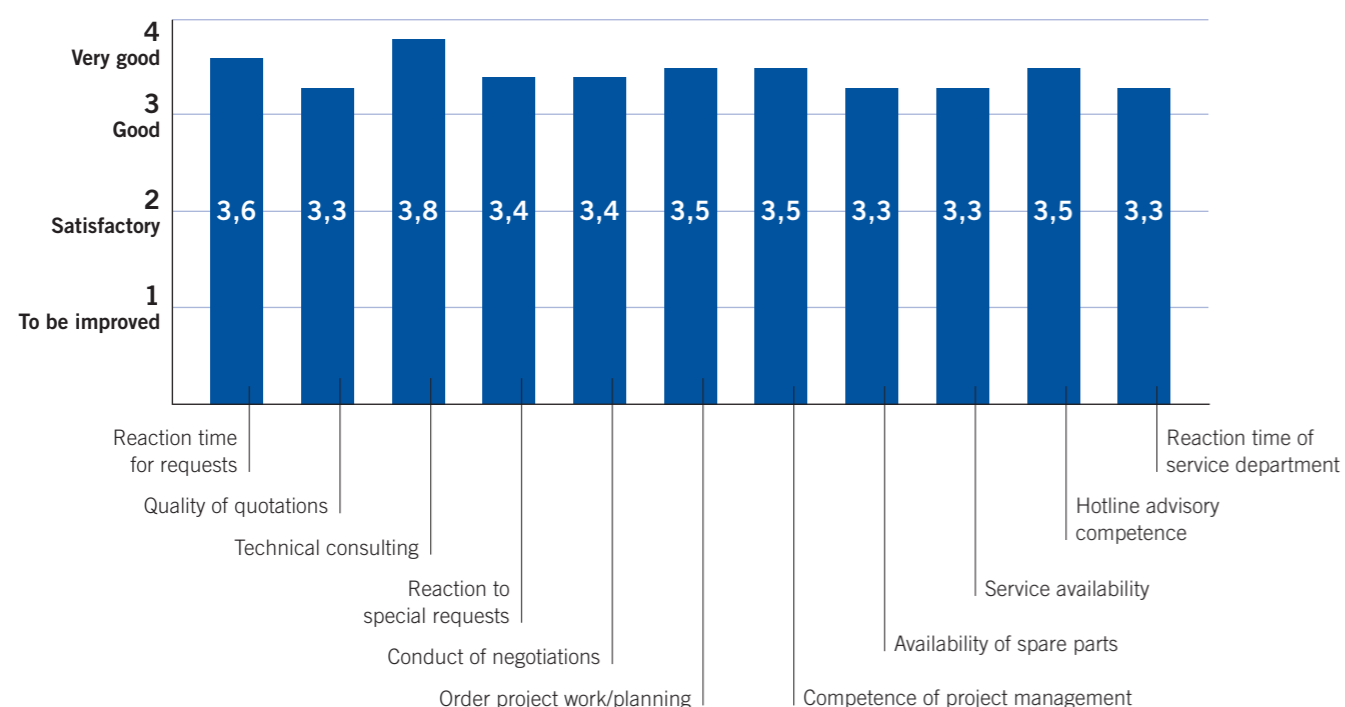
To increase the incentive for the participants we combined our survey with a lottery. The drafted winners received the following prizes:

- 1st prize: Piloting a helicopter
- 2nd prize: Apple iPod touch
- 3rd prize: Driving an excavator

We wish to thank all participants for taking part in this survey and for the positive evaluation. We are looking forward to a continuing positive co-operation based on partnership! As a matter of course, we are at any time open for new suggestions and ideas for improvement. Please do not hesitate to get in touch with us!



Customer Satisfaction: Average Evaluation



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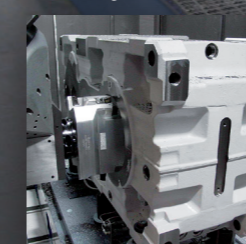
BW COMPETENCE

BURKHARDT+WEBER PROJECT REPORT
WINTER 2011/2012



16th machining centre for SEW Industrial Gears

SEW
Industrial Gears
in Tianjin/China



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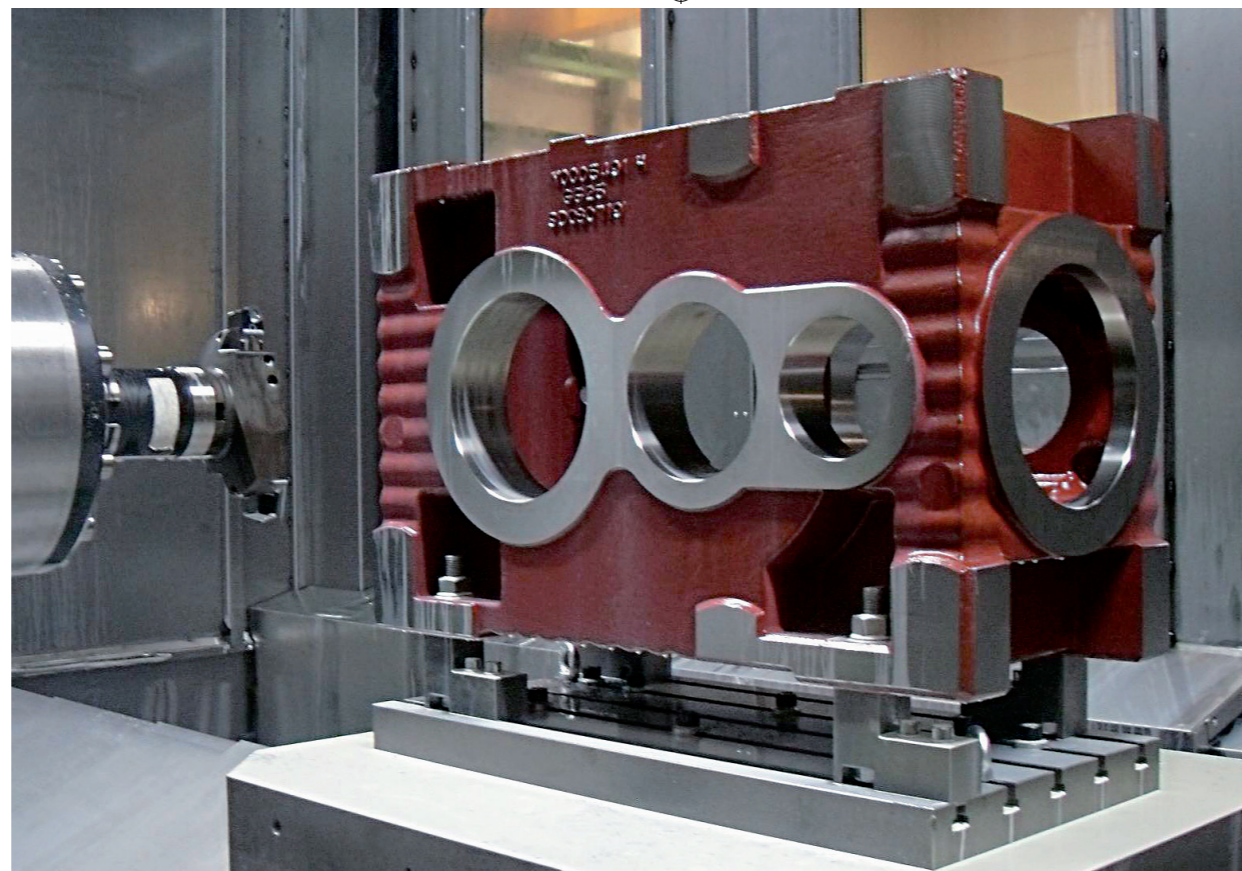


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BW BURKHARDT
+ WEBER

Strong and accurate since 1888

16th machining centre to SEW in Tianjin/China



The high-performance gear spindle with a power of 60 kW (100 % duty cycle) safely masters the machining in the MCR 1200

The company SEW Eurodrive GmbH & Co. KG headquartered in Bruchsal, Germany is one of the international market leaders for drive technology and automation with 12 manufacturing plants in Germany, France, Finland, Brazil, China and the USA.

In 1994 SEW Eurodrive expanded to Asia by founding the manufacturing plant SEW Industrial Gears in Tianjin, a central industrial metropolis in China providing an excellent infrastructure and an optimal strategic position. From the beginning, the requirement placed to this location was to manufacture the SEW products in the same top quality as being manufactured in all other SEW plants. Furthermore, the rapidly developing Chinese market demanded a quick customisation.

The wide range of SEW products comprehends nearly all types of industrial gear units and ancillary individual components. For example the gear unit series ML covers the torque range from 180 to 680 kNm. Main application fields are mining and crane construction.

The vertical range of manufacture at the location Tianjin is high in this respect. Moreover, all European directives for execution and safety apply. Any technology of state-of-the-art gear production are certainly provided. Top priority is given to ensure the well-known premium quality by SEW. For this purpose, SEW rely amongst others on machining centres made by BURKHARDT+WEBER Fertigungssysteme GmbH.

In the year 2006 the first machining centre type MCX 1200 was ordered at BW. Following the successful production start of the large machining centre, further 15 machining centres of the MCX and MCR series were ordered at BURKHARDT+WEBER in almost regular intervals.

Today, nearly the complete product range of BW machining centres can be found at the Tianjin site – with pallet sizes from 800 mm up to 2000 mm. Mr. Bruening, head of the process and production technology, and his committed team configured each single machine for the individual process. And some of the machines were adapted exactly to the machining tasks by special technical modifications.

**Torque range
from 180 to
680 kNm**

The machinery of SEW Industrial Gears includes machining centres with roller guideways as well as flat guideways. Whether swivel heads with 5-axes interpolation, special milling heads, special tools, rotating pallet changer, coolant equipment in special design etc. – this equipment increases the process depth and thus shortens production time.

All BW machining centres share the same large tool magazine with a capacity of almost 500 tools. This ensures high production flexibility even when machining different components of small batch sizes.



Large dimensioned and with high power at the spindle: the machining centre MCR 1200

Due to the high tilting torque of 120 Nm and a tool weight of up to 60 kg, the BW rack-type tool magazine allows the use of highly efficient multi-function tools.

A thorough examination of the parts to be machined plus a process optimisation by means of advanced cutting materials precede each individual procurement project. The teamwork between the SEW specialists, the BW technology department and the respectively favoured tool manufacturers guarantees optimal cycle times going hand in hand with highest quality standards of the machined components. This is achieved by combining proven and reliable technologies and exhausting the limits of new production processes as far as possible. It is often a matter of making thinkable really feasible.

Numerous features of a modern BW machining centre are based on the requirements and ideas developed by the SEW specialists. Whether it be little things such as the modification of flushing pipes or improvement of complete power trains – SEW is pressing to continuous optimisation. Good ergonomics is an important aspect, too. Therefore, all machining centres are equipped with a process monitoring system, chip coding and DNC. The machines are installed at ground level. Spacious platforms allow user-friendly and efficient operation, and with the light barriers with prism an almost barrier-free fixture loading on the pallet changers is provided.

In addition, the BW machining centres which have been ordered within the past three years are equipped with the BW energy-efficiency-package. This reduces the energy consumption up to approx. 20 %, depending on the operation mode.

An excellent SEW maintenance and servicing team guarantees the high level of availability and reliability of the BW machining centres. So far, this

team has attended various trainings, especially “tailored” to the ordered machining centres to remain up-to-date. Furthermore, SEW works with a resident BW service-engineer on-site from the Sales & Service office in Shanghai. Due to their own, well-sorted spare parts inventory, SEW can rely on short access times in emergencies.

Currently, five more machining centres will be delivered to SEW Industrial Gears. Two of them are special purpose machines, designed completely to the requirements specified by SEW. The challenging task combined the requirement for the highly-effective machining of large gear segments with the flexibility of a standard machining centre. The common creative brainstorming process resulted in an absolutely innovative production concept and the order of two special purpose machines.

Even the swivelling HVP head safely handles boring tools weighing up to 60 kg

