Standard components to form production systems

Usable flexibility through practical design and consistent modularity - for the efficient production of cookware, Fissler relies on standardised presses and pneumohydraulic drive technology from TOX® PRESSOTECHNIK

The fact that there is a suitable lid for every pot is a German figure of speech taken from life as well as an almost mandatory requirement these days for vitamin-preserving and thus energy-saving cooking. But now enough of playing on words - since cookware has developed from a simple cooking device to a more design, technology and function orientated consumer item, completely different demands are placed on it. These in turn can only be met by a comparably high material, production and quality assurance effort. Particularly as the educated customer is well prepared to pay the respective price for functionality and quality for pans and pots. However, the market for cookware is also marked by a globally large competition, which is why manufacturers must pull out all the stops to ensure competitiveness in the long term. This applies on the one hand to design, functionality, quality, durability and suitability for different kitchen systems (electric cookers with plate, ceran, or induction hob or gas cookers) and energy efficiency, and on the other a preferably rational and efficient production technology. This happy symbiosis is represented by Fissler GmbH in Idar-Oberstein, Germany, which is on the road to international success with its cookware, based not least on a high manufacturing depth. In order to meet the self-imposed high requirements of quality and productivity, Fissler rely on qualified and committed personnel as well as a state-of-the-art and largely highly automated machine park. Depending on the task, know-how, process competence and capacities, the production systems and devices as well as tools are optionally realised in-house or in cooperation with external machine and device manufacturers.

Economical realisation of press systems and press devices? Use TOX® standard components!

Whenever possible, Fissler uses suitably powerful components which are available on the market for the production systems. External suppliers are also encouraged to follow this approach. When it came to the production equipment for the serial production of new pans and pots, the in-house equipment manufacturing and a manufacturer of special machines shared the task in that Fissler itself designed and equipped five press systems and the supplier built two more presses. For the production equipment to be available on time, Fissler in Idar-Oberstein decided on procuring standardised base units for the upcoming deburring, punching, forming, calibrating and pressing work. Within this context, the technology company TOX® PRESSOTECHNIK GmbH & Co. KG, D-88250 Weingarten, was awarded the contract for the delivery.

The sales representative responsible for consultation and application at TOX® PRESSOTECHNIK, Marco Unger, was able to offer economical
solutions for all machining tasks from the standard range of TOX®-Press Systems and pneumohydraulic press force drives TOX®-Powerpackage, following an analysis of Fissler's requirements, in close cooperation with the company headquarters. This includes a 2-column press type MBG 08 for 80 kN press force, two 2-column presses type MBG 50 for 500 kN press force, two precision small presses TOX®-FinePress KFS (toggle press) and PFL (pneumatic press), and finally two pneumohydraulic drive cylinders TOX®-Powerpackage of type K with 150 kN and 70 kN press force. While the TOX®-Presses went to the equipment manufacturing of Fissler to be equipped there independently with tools, the drive cylinders TOX®-Powerpackage were delivered to the commissioned special machine manufacturer. As a consequence, the required production facilities developed in parallel as it were, in order to provide the intended capacities for the planned market launch of the new cookware range.

Individual process solutions from the construction kit

With the 2-column press of type MBG 08, 150,000 aluminium round blanks are machined every year (raising of the inner edge), to be able to press in stainless steel round blanks into the said aluminium round blanks with the other two 2-column presses in the next work step. The basic equipment of the two similar presses is thus flexible that pans (approx. 90%) as well as pots (approx. 10%) can be machined with them. The TOX®-Presses of the MBG series are characterised by a compact and stable 2-plate construction with 2-column guide and can be equipped individually with very different tools. With the toggle press TOX®-FinePress KFS 02 for 2.5 kN press force, the respective lower parts and upper parts are pressed into approx. 50,000 handles per year. The pneumatic press TOX®-FinePress PFL 008 for 8.5 kN press force has an increased working height. With it the carrier plates are caulked with the roller membrane holder on up to 320,000 pressure cooker valves per year. The supplied pneumohydraulic drive cylinders TOX®-Powerpackage of series K (compact design for installation in cramped conditions) were installed here in two special column presses. With the TOX®-Powerpackage K 30, first of all a hole is punched into up to 350,000 pan lids per year with 150 kN press force. This is then calibrated in a second work step with the TOX®-Powerpackage K 15 with 70 kN press force. Delivery of the entire press and drive technology from one source had many advantages for the customer Fissler as well as for the special machine manufacturer. For example there was only one contact partner, so that the interfaces were clearly defined. The press systems which were delivered ready for operation or the drive cylinders ready for assembly reduced own construction efforts. Furthermore, installation and assembly were simplified, all this at good purchase conditions and with the thousandfold proven quality of the TOX®-Press Systems. With the drive cylinder TOX®-Powerpackage, which is proven a hundred-thousandfold, Fissler can also be sure of long-term process-reliable manufacturing in multi-shift operation.
Image descriptions:

Image 1 shows the TOX®-Press of series MBG for punching holes into the pan lids.

Image 2 shows the TOX®-Press of series MBG, with which stainless steel round blanks are pressed into aluminium round blanks.

Image 3 shows the pneumatic press TOX®-FinePress PFL, with which the carrier plates are caulked with the roller membrane holder on the pressure cooker valves.

Image 4 shows the toggle press TOX®-FinePress KFS with inserted pan handle, into which the upper part is pressed.

Image 5 shows the pan handle with upper and lower part from Fissler.

Contact partner for queries:

TOX® PRESSOTECHNIK GMBH & CO. KG
Mrs. Stefanie Reich
Knowledge management
Riedstraße 4
D-88250 Weingarten
Phone: +49 751/50 07-0
Fax: +49 751/5 23 91
E-Mail: info@tox-de.com
www.tox-de.com

Fissler GmbH
Harald-Fissler-Straße 1
55743 Idar-Oberstein
Phone: 06781 403-0
Telefax: 06781 403-321
www.fissler.de

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Image 5 shows the pan handle with upper and lower part from Fissler