

# Round fine centring system – precision for injection moulds

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Fine centring system provides more precise injection mould closure than ever before. Tried and tested under practical conditions, compact and economic, it is gentle on slide bars and core pullers and results in precise, flash-free mouldings.



Source: Agathon

Functional units for cars, such as steering, brake or emergency steer assist systems, are most often accommodated in a box consisting of housing and lid which contains all the necessary components and has to be sealed with a watertight weld. As a result, requirements for the two mouldings are very stringent, in particular in terms of joint face precision. To meet these requirements, Oechsler in Germany has equipped the injection moulds it uses for the housings and lids of these functional units with two round fine centring units from Agathon, Switzerland. Being play-free, these units ensure precise, reproducible centring every time the mould is closed, so increasing the precision and dimensional stability of the mouldings. In addition, the units are gentle on slide bars and core pullers in the mould, so minimising wear.

## Structure and mode of operation of round fine centring system

Each round fine centring unit consists of a centring pillar with pretensioned rolling elements mounted in a cage and a centring bush. As a rule, the centring bush is fitted in the moving mould half and the centring pillar in the stationary mould half. On mould closure, the centring pillar enters the centring bush. Thanks to the special geometry and pretensioning of the rolling elements, shortly after the pillar first enters the bush, two rows of rollers take over the job of centring, so ensuring an elevat-

Partial view of moving plate of two-cavity housing mould; the additional centring pillar illustrates interaction with the centring bush of the round fine centring unit.

The round fine centring system, available in different sizes, ensures that injection moulds close precisely, repeatably and without play.



ed initial load-bearing capacity and a high degree of precision.

These round fine centring units require virtually no maintenance since, unlike the crosswise flat guides used most often in the past, they suffer barely any wear and therefore have a long service life. Just two fine centring units, which can be positioned as desired, are required for flawless mould centring. The stationary and moving mould plates each need bores to accommodate a centring unit, and experience has shown that these centring units do not need subsequent replacement or reworking. The total costs associated with this fine centring system are therefore generally lower than for flat guides.

This fine centring system is particularly useful when moulding all kinds of precision parts and for thin-wall parts, for example for the packaging sector. Its minimal use of lubricant means it is also suitable for clean room applications, for example in medical technology.

### Tried and tested in injection moulding

Prior to injection moulding, electrical contacts are inserted into the cavity. The four-cavity mould for producing the lid is also equipped with two fine centring units, since weld tightness requirements can only be met if the housing and lid joint faces are moulded with the utmost precision. Agathon worked hand in hand with Oechsler to develop its round fine centring system and was therefore able to address all of Oechsler's requirements and desires for this precision mould guide system right from the outset.

The two moulds have demonstrated their effectiveness under practical conditions - even after three years of operation the fine centring units are still fully functional, do not exhibit any wear and operate with undiminished closing accuracy.

Oechsler manufactures functional units for TRW Automotive, which is one of the world's largest suppliers to the automotive industry, specialising among other things in steering and brake systems and vehicle occupant protection systems. Once the housing and lid

have been injection-moulded, Oechsler perform full assembly and sealing of the functional unit. Finally, the finished assembly undergoes testing to ensure 100% tightness.

Agathon is known as a manufacturer of high-tech grinding machines for indexable inserts. Their second division is the production and distribution of standard parts for mechanical engineering, tool and mold construction. According to the company, they guarantee an excellent customer service and a large network of representatives for technical support and consulting.

[agathon.ch](http://agathon.ch)

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### INFO

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