

Think bigger, think faster, think global – and act local!



Successful application in the automotive industry: the Kurtz low-pressure casting machine from type AL18-16FSC with oven shuttle system.

For each automobile manufacturer, reducing vehicle weight under the title of “Lightweight construction” is an important requirement. With hollow casting, a cast part with a matching construction can replace a complete component made of a number of sheet metal parts – and save weight and costs. What appeared impossible with low-pressure casting machines a short time ago with a view to size and design is now increasingly becoming a basic precondition for production.

These requirements in the direction of system size, but also the number of cooling circuits and furnace size are already standards for Kurtz GmbH. And we can see: the trend is clearly going towards larger and larger low-pressure casting machines **3** –

so it is no surprise that numerous XXL machines can be found when you look at the Kurtz order books. Demands for a larger clear width and large mounting tables for moulds with multiple occupancy, for example moulds for large cast and structured parts, have become the order of the day in the meantime. And compared with the past, these machines are no longer in the category “special machines”, but have become standards.

Larger machine, larger furnace

To make sensible use of such large machines, the dimension of the furnaces also has to grow. Not long ago, low-pressure furnaces with a capacity of 1,500 kg were more the exception, but furnaces between 2,000 and 3,300 kg have become standards in the meantime. Large furnaces have asserted themselves in the low-pressure process, as

a number of feed tubes at large distances can be used in the area of the chassis and structured parts – with the benefit that a casting box can be avoided. So that systems with these dimensions also work process-securely, a sound machine construction with numerous important details is absolutely urgently necessary. The Kurtz Type AL18-16FSC low-pressure casting machine fulfils precisely these prerequisites and possesses the following technical details:

- clear width between the mounting tables 2,600 mm
- clear width between the machine pillars 1,800 x 1,600 mm
- stroke of the closing unit 1,800 mm
- furnace size 3,100 kg
- use of 8 feed tubes

Faster cast, higher quality

The fact is: a large machine alone is not purposeful, it must also be possible to cast the parts quickly for economic reasons. They become quicker with cooling units which are in a position to curtail the casting cycle and at the same time to increase the quality. Whereas most casting machines had up to 24 cooling circuits a few years ago, large machines nowadays start from 32 cooling circuits ① – and often have up to 96 circuits. In cooling, the trend is clearly going towards water, some casting machines even being built exclusively with water circuits. But quicker not only relates to the production, but

also to the availability of the casting machines with short fitting times to match. If need be, the furnaces are completely changed – which has to be quick, even with more than three tons of content. With the FSC ② furnace shuttle system from Kurtz, this is possible without any problems.

Cast part production directly on site

Cast parts are becoming larger and larger, but nevertheless lighter – for which the use of sand cores for hollow casting is responsible. Economically, there is no point in transporting these giant parts across long distances – to keep the logistic expenditure as low as

possible, the suppliers need their foundries where the parts are also processed. This is why foundries use the same production system for one and the same product in a number of countries, in order to be able to serve their customers locally. All in all, it is a question of thinking bigger and quicker for the subject of casting machines and of including local production in these ideas. With standardisation of their systems, manufacturers remain flexible regardless of the location, for example if it is a question of moving production – the casting machine experts from Kurtz support you as well as possible in this! ■

