

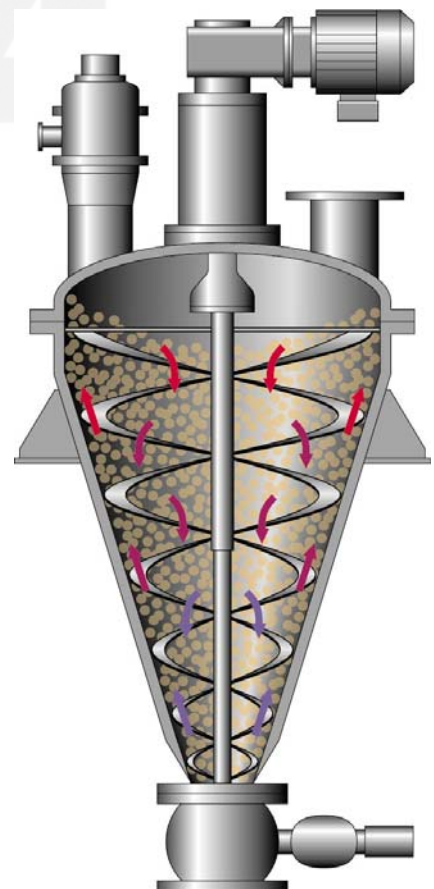
Pharmaceutical Agitator

# AVA turbulence offers time saving and product protection

When pharmaceuticals have to be produced with as little solvent as possible and once all of the process-relevant options have been exhausted, there only remains the option of drying.

This involves the acceptance of long, often very long drying times. Due to the loading of the dryer, the overall throughput capacity of the whole production plant is reduced. Even when the cycles are far shorter, the work still increases when mixing short process times, which must therefore be very worthwhile.

AVA conical mixers and dryers have been developed for short process times with maximum product protection. The regular mixing and drying container with the tried and tested conical angle has been maintained. This is one of the reasons why the devices can be emptied almost entirely without residue. But a different agitator is needed. The rotary screw with its angular geared base in the product chamber was too complicated, too prone to breakdowns and always harboured the risk of product contamination. The screw was replaced by means of a helix mounted on a central shaft, which runs along the container wall with a narrow gap. Bearing and shaft seal could thereby be aligned outside of the product chamber. Dependent on the product characteristics, a single or double helix design is used. The self-centring double helix is suitable for heavy and tough products, where a deflection of the agitator could lead to problems. The helix causes turbulence and a far higher product turnover in the mixing or drying container than was the case with a rotating screw.



This leads to shortened mixing times, an improved heat transfer to the heated outer wall and thereby also considerably reduced drying times. The agitator does not have a bottom bearing and supports the discharge of slowly flowing products. The dryers can also be used for the concentration of liquids – if necessary, until dry.

The mixers and dryers are designed and manufactured in accordance with GMP regulations. They are adapted to the spatial and process-relevant requirements of the customer. This means that no two devices are the same. The simple design of the units enables the physical size to be reduced down to just a few litres. With the prevailing tendency toward ever more active substances, this system is very much in trend.

