

Special gear units for mixing systems

For mixing, stirring, blending, aerating and kneading applications in a range of applications from food and beverage to biotechnology, pharmaceuticals, water treatment and chemicals, SEW-EURODRIVE can supply standard gear units in a special agitator design. SEW-EURODRIVE projects and business development manager, Jonathan McKey outlines the offering.

Gear units in an agitator design are often equipped with an extended bearing housing optimised specifically for use in mixers and agitators, using tried-and-tested standard gear unit series. SEW-EURODRIVE is able to supply these gear units to cover blender, agitator, aerator, mixer or kneader applications in a range of industries.

The benefits of these gear units in an agitator design include FEM-optimised housings for particularly high permitted overhung loads. What is more, no additional bearing is required to absorb the axial and radial forces generated by the agitator shafts. The shaft and flange dimensions are compatible with standard dimensions.

Different options and design variants are available to accommodate a range of applications, including a special explosion-proof design for hazardous areas. Full customer support and technical back-up are also available from SEW-EURODRIVE to assist customers with their specific design requirements.

For helical gear units, the RM series has been a long-standing variant for mixer and agitator applications. New to the portfolio are the parallel-shaft FM/FAM helical gear units, and the bevel-helical KM/KAM gear units.

In many cases, parallel-shaft and helical-bevel gear units are also used for this type of application. These gear variants enable more efficient utilisation of existing footprints, while the agitator shafts with mixing element can be inserted directly into the hollow drive

shafts. In addition bearings can be dispensed with in many cases, thereby reducing costs and maintenance requirements even further.

The permissible overhung loads range from 20 000 N to 135 000 N, with motors best suited for these sizes in the power range 0.12 kW to 200 kW. Maximum permitted gear unit output torque ranges from 820 Nm to 20 000 Nm.

Features of the specific agitator design include a double oil seal on the output side for additional protection against leaks, and reinforced bearings opposite the output side

to increase the permitted overhung load.

Particularly for high output speeds and low gear ratios, there is a grease nipple for further greasing of output shaft bearings, and a dry-well design with a leak sensor to prevent the product from being contaminated by leaking lubricant. □

