

Harmonic Drive LLC Gantry Milling Machine Milling Head

- Special gearbox design
- Input shaft

Gantry milling machines are frequently used for the production of large moulds for plastics components, or for large components in the aerospace industry. The recent trend to high-speed machining means that this type of machine must achieve a higher dynamic performance, while fulfilling a requirement for increased machining accuracy. An improved dynamic performance means that moving masses must be minimized. In the case of gantry machines this means that the size and weight of the milling head (4th and 5th axis) must be kept as low as possible. Harmonic Drive® strain wave gear can help achieve this target.

This drawing shows a special gearbox incorporating a CSF component set. The gearbox is part of a two stage gear arrangement. A spur gear stage follows the Harmonic Drive® strain wave gear. In this case the backlash in the spur gear stage is removed by means of a mechanically pre-loaded split pinion gear. There are a number of alternative possibilities for removing backlash. It is also possible to electrically pre-load two actuators against each other.

