

Harmonic Drive LLC Machining Center Two-Axis Milling Head

- Hollow-shaft actuator
- Extended hollow-shaft

High torque capacity, compact design, and high accuracy make FHA hollow-shaft actuators ideal for use in machinery for machining of wood and plastic. This design example shows a two-axis milling head from a 5-axis machining center. FHA actuators are used for both rotational axes. The high-speed spindle is connected directly to the output flange of the 5th axis actuator. The cables from the spindle pass through the hollow-shaft of the actuator.

This is a very simple and elegant design, which is made even easier by a special elongated hollow-shaft of the upper actuator. The hollow-shaft is connected to the output flange and can be used to actuate the limit and reference switches.

This creates a reduced effort for wiring and manages to protect the switches from damage. It should be noted that the complete head is extremely light. This is an essential feature for high-speed machining, where the velocity and acceleration of the three linear axes are very high; therefore, moving masses must be kept to a minimum.

