

Abstract

The present invention relates to the technical field of tool changer, and in particular to a fast-response tool-changing telescopic mechanism and installation method thereof, comprising: a fixed seat; a tool-changing shaft rotatably provided in the fixed seat and having at an end thereof extending out of the fixed seat a sliding chamber provided along the central axis; a tool-changing barrel sleeved on the outer side of a segment of the tool-changing shaft, with one end away from the fixed seat being connected to a tool-drawing cover; a piston rod provided in the sliding chamber with its driving end fixedly connected to the tool-drawing cover, configured to drive the tool-changing barrel to drive the tool-changing arm to draw the tool outward; wherein two guide grooves are symmetrically provided on both sides of the tool-changing shaft, and a guide block is provided on the tool-changing barrel corresponding to the guide grooves, the guide block passing through the tool-changing barrel and extending into the guide grooves, and the guide grooves are provided with a first booster block and a second booster block along the sliding track, and an elastic component for providing an initial starting force to the guide block is provided between the first booster block and the second booster block and the guide block, which overcomes the starting friction resistance of the oil cylinder, thereby improving the response speed of the piston rod when starting at the end position and thus improving the tool change efficiency.

[FIG. 3]