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# SELECTION OF ELEMENTARY BASE TO PROVIDE TECHNICAL CHARACTERISTICS OF BUILDING ROBOT

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When developing any industrial robot, the task of selecting the optimal parameters of the elementary blocks is very important, because the quality and efficiency of development depends on this direction. Under the element blocks we understand the independent functional parts of the robot. In the proposed design of construction robot can be divided into the following 6 blocks: crawler base, rotary turret, first link, second link, third link and nozzle.

The crawler base carries the largest load of all the blocks. It must be resistant to overturning, withstand the weight of the whole robot. In order to ensure the accuracy of movement of the robot, a crawler was selected. It is also worth noting that the crawler web has a larger area of contact with the surface, and therefore exerts less pressure, which is important because it can provide work even when building multi-storey buildings, and therefore the floor will withstand the work. The choice of dimensions of this unit was also influenced by the aesthetic appearance, because the consumer is interested in non-standard shape and beautiful appearance.

The following requirements are set for the rotary turret: rigidity of the structure, no deviation of coaxiality with the Z axis, precise rotation of the arm and aesthetic appearance. The rigidity of the structure was achieved due to the structures made of sheet material. Coaxial with the Z axis is ensured by a reliable movable connection using bearings.

The first, second and third links have similar requirements: free movement of the nozzle in space, accuracy and endurance. In order to meet all the requirements, reliable movable connections between the links were used and stepper motors with precise step motion were used.

The last block of work – the nozzle, plays the biggest role in the design of the work, if this is essentially the main purpose of creating a robot. In this block of placement of data control elements that are combined, and so the main requirements are their compact placement and aesthetic appearance.

So, it is important to correctly select the optimal parameters of the element blocks in order for the development to meet all the requirements and technical characteristics. This will help reduce development time, increase durability and reliability of development.