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ROBOTOTECHNICS AND TECHNICAL SETS APPLICATION OF AUTOMATIC ELECTRIC POWER SUPPLIES FIELDS

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ANNOTATION
In this article, robotics and technical complexes areas of application of automated electric drives and industrial robots consider a number of manufacturing processes used.

Keywords: robotics, industrial robots, stamping, manipulators, powder materials, lathes, welding.

INTRODUCTION

Automated electric drives of robotics and technical complexes is included in the category of specialties in the field of study. Academic Science Undergraduate in the field of mastering: a worker who provides the basic functions of robotics and technical complexes mechanical devices that move the organs, on a variety of drives have skills; industrial robots and technical complexes design, operation and adjustment of automated electric drives must have experience. Robotics and technical complexes the purpose of teaching the subject of automated electric drives - Robotics and The purpose of teaching the subject of automated electric drives of technical complexes students: stages of development of robotic devices and their development provide information on the role of the release; mechanics of robots provide information about the part; from robotic control software use training; electrical drives of robotics and technical complexes to teach to know the types and basic requirements to them; robotics and power circuits of technical complexes and modes of operation of their control systems to gain knowledge about.

Automated electric drives of robotics and technical complexes training in design, operation, and adjustment. The task of science is to educate students development of automated electric drives of robotics and technical complexes to analyze various practical issues of application, independent thinking, preparation for decision making. One thing to keep in mind is basic the goal is not to purchase equipment, but to support its economic development is converting. Robo totechnics is needed in the introduction of robots into production technological processes should be divided into stages. That's the best develop procedures for solving important technical, economic and social problems possible. With heavy physical labor to do the work in the first stage related processes, including loading, unloading, and radioactive substances works used; very high and low temperature, high humidity and vibration, polluted air, a high level of noise, a variety of and rested almonds standing work; service of various

technological, transport and other equipment automatic control of equipment, lines, plots works. Below is a series of manufacturing using industrial robots let's look at the processes. Casting.Modern industrial robots and automatic manipulators are in the main processes of casting development (from preparation of raw materials to cleaning, heat treatment, in control and testing, loading and unloading, transport and warehousing, and etc.) are widely introduced. The use of robots in casting expansion in the process of creating a form, assembling, placing forms, and the like allows the introduction of a management system. Blacksmithing - stamping. People sheet cold stamping by pressing in various branches of the economy details of various shapes and sizes are obtained. Series and small series stamping and stamping is often manual is done using It's boring and it's kind of traumatic causes it to happen. Now, the stamping is done automatically various industrial robots and manipulators to transmit and receive stamped detail is carried out using. Robots used for this purpose should have fast-moving transmitters, reliable control systems, universal or quick-replaceable magnetic, vacuum and similar handling devices. Manufacture of products from powdered materials. In the manufacture of products by powder metallurgy, industrial robots are used to place and remove the press on the press equipment, lubricate the forming surfaces of the press, remove the finished product from the press, pour into a thermal furnace and perform such basic and auxiliary work. In addition, robots are used in a number of technological operations for the installation of thermoplastic materials, as well as for loading, unloading, placement and control. Welding production. In the production of welding, industrial robots are used primarily to perform basic technological operations on direct welding. The main tasks of universal and special industrial robots in welding include: installation and removal of the device on technological or other equipment, assembly of parts and assemblies before welding, preparation of the part for welding, removal and removal of the welded work area , perform the basic welding technological operation, if necessary, pre-welding zagatovka, straightening of details and welded parts - installation on the device, cleaning of welded seams, welding quality control, automatic or flow line operation control, etc. Thermal production. Taking into account that part of the robotic operations in heat treatment takes place at temperatures above 10000C, the manufacture of holding devices from heat-resistant material that does not change its parameters even at high temperatures need To the work that industrial robots can do in heat treatment these include: preparation of the product for heat treatment, transfer to a thermal furnace and placement, cleaning, retrieval, adjustment, hardness and quality control, equipment operation management, etc. Mechanical processing. Mechanical processing series of deliveries, small series and the basis of granular production one of the features is the lack of machine time. Mechanical processing this is the time spent waiting and transporting parts in the overall transmission cycle 95 percent of the time spent in the production of parts. Robots increase the utilization rate of equipment used, the production cycle reduction allows you to improve product quality. Industrial robots The universality of them is the auxiliary work of various metal cutting machines allows use in automation. In most cases, every robot can serve two or more machines. Using robots automated simple machines are often productivity-specific do not lag behind vending machines and come cheap. From sliding robots when used, a group of robotic machines serve plot and flow lines can do.

Machining should be done using industrial robots the main and ancillary operations include: cutting various metals installation and removal of equipment on machines and complexes, with digital software maintenance of controlled and group universal lathes, section and flow lines installation and removal of fabrication, tooling, equipment, technological operations (drilling, grinding, bleaching, etc.) performance control and testing, Inter-operational and intra-shop transportation, technological,

transportation equipment operation management, etc. From the option of robotic flow lines One of them is the line "Universal 5" based on the industrial robot. The line consists of eight metal cutting machines equipped with four Universal 5 robots consists of. The line has sections with one robot and two machines. Sections connected to receiving and transmitting devices. Industrial robots on this line performs the following operations: provides the machines with blanks, incoming holds the zagatovka; passes the blank from machine to machine; zagatovkani corrects the orientation in space before mounting on the device transmitter, etc. The first of the robotic line section MR G6A milling - from a centered lathe and The GE61MFA model is a software-controlled lathe, the second section from two 1A616S model lathe copying machines, the third section From the lathe model 1E61MFA and grinding machine model VT 53, the fourth the section is a VT 53 model grinding machine and a UPW 12.5x70 model carving consists of a carving machine. Robotics in the form of a plot complexes, in turn, the possibility of introducing efficient production systems because each machine in the complex has the ability to process different parts is born One such complex plot is TUR 1. Surfaces coating processes. The surface of the product with metal or powdery polymers wide range of industrial robots in coating, galvanics, painting in various ways used. Surface preparation (cleaning, grinding and the like), transferring the product and mounting it on the equipment, metallizing then remove the item from the work area and finally directly to the surface of the item metal cladding. Galvanic method of coating the surface of the product when used, robots are used to service equipment, prepare for surface coating, and finally performs the coating process. Assembly work. Basic assembly work and special industrial robots in the automation of ancillary operations in use. From this, the use of robots makes the operator very physical relieves the work and ensures the stability of the process, the way by the operator errors that can be made are prevented. Assembling from robots the possibility of automation using a linear direction in the transfer of goods and install them on the device. Control, transportation and warehouse automation. Robots in the automation of a number of control tasks, in the analysis of the chemical composition of alloys and other materials, sample details in preparation for inspection and in the installation of equipment to control them, from testing and so on. Industrial robots in the warehouse systematic installation, placement, retrieval, detection of details when used such as program transportation. On the whole industrial robots in construction, light industry, pharmaceutical postal service and others can be used in industries, scientific research. For example, textiles, in the transportation of materials in the industry in pieces, sewing materials to each other in customizing, sewing buttons, and packing and transporting mail etc. In the field of service, robots play the role of guards, gardeners, washing dishes and clothes, working at gas stations, garbage collection, sale of bulk goods, food orders can be placed. Robots again work in the automatic fire extinguishing system, can control traffic rules.

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