

HYDRO AND PNEUMO DRIVE, HYDRO AND PNEUMO AUTOMATICS

(name of the discipline)

ANNOTATION

TO THE CURRICULUM OF THE INSTITUTION OF HIGHER EDUCATION

Specialty 11-36 01 01 "Technology of mechanical engineering"

| | Form of higher education | | |
|---|--------------------------|----------------|----------|
| | full-time (daily) | correspondence | |
| | | abbreviated | complete |
| Well | 3 | 3 | 4 |
| Semester | 6 | 6 | 7 |
| Lectures, hours | 50 | 12 | 8 |
| Laboratory classes, hours | 16 | 4 | 4 |
| Classroom examination (semester, hours) | - | 6 | 7 |
| Report, semester | 6 | 6 | 7 |
| Classroom hours per academic discipline | 66 | 16 | 12 |
| Independent work, hours | 42 | 92 | 96 |
| Total hours per academic discipline / credits | 108/3 | | |

1. Brief content of the discipline

The discipline "Hydraulic and pneumatic drive, hydraulic and pneumatic automation" contains general ideas about the adjustment and operation of modern automated hydraulic and pneumatic drives of industrial plants.

2. Learning outcomes

A student who has studied the discipline should **know**:

- classification, arrangement and principle of operation of elements of hydraulic and pneumatic drives, as well as the requirements for them;
- typical schemes and designs of hydraulic and pneumatic actuators and their elements;
- features of the working process in hydraulic and pneumatic elements and automated drives;
- fundamentals of the theory and calculation of hydraulic and pneumatic elements and hydraulic and pneumatic actuators;
- basics of modeling, synthesis and experimental study of hydraulic and pneumatic drives and their elements.

be able to::

- set and solve the problem of choosing the main parameters of hydraulic and pneumatic elements and hydraulic pneumatic actuators;
- draw up hydropneumatic diagrams of drives of technical systems;
- calculate and design hydropneumoelements and drives for the required operating parameters with the necessary characteristics;
- choose hydropneumatic elements, auxiliary hydropneumatic equipment and working environment (body) for hydraulic and pneumatic systems according to catalogs and reference books.

own:

- basic principles of functioning and structure of hydraulic and pneumatic drives of technical systems;
- methods of regulation and automation of hydraulic and pneumatic drives of technical systems.

3. Formed competencies:

SK-3 To be able to design separate units and metal-cutting machines as a whole, elements of hydraulic and pneumatic drives, as well as hydraulic and pneumatic automation, adaptations to these machines of various types, while using modern equipment control systems.

4. Requirements and forms of current and intermediate certification

Current and intermediate certification is carried out in written and oral-written form through reports on laboratory work with their oral defense, written test.