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S P E C I F I C A T I O N

UNIVERSAL PUMP-COPRESSOR STATIONS

Working media – industrial gases air, nitrogen, argon, helium, carbon dioxide

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*Universal pump-compressor stations (UPCS) are designed for pumping (charging, evacuating, recovery) clean **air, nitrogen, argon, helium, carbon dioxide** and are manufactured in accordance with TC 3632-012-85505701-2016 based on oil-free compressors (have passed patent protection).*

Main characteristics of producing UPCS for work with air, nitrogen, argon, helium, carbon dioxide:

- *Pump type: piston, oil-free*
- *Type of compressor: piston, oil-free, single-stage*
- *Quantity of cylinders: two-cylinder / four-cylinder*
- *Discharge pressure range: 0 - 3.5 MPa (0-35 bar)*
- *Minimum inlet pressure: 0 bar*
- *Possibility of self-priming: yes*
- *Ability to work under excessive inlet pressure: yes*
- *Maximum inlet pressure: 1 MPa (10 bar)*
- *Drive type: electric, direct*
- *Ability to adjustment of the engine: Yes (depends on construction)*
- *Leak proof: Yes*
- *Power consumption: 1-3 kW*
- *Mains voltage required: 220/380V*

Main spheres of application of universal pump-compressor stations:

- *Charging (pumping, loading, filling) the cylinders with industrial gases;*
- *Pumping (evacuating, recovery) cylinders with industrial gases till zero (the collection of the gas phase);*
- *Submission of industrial gases in other containers (dosing, packaging, filling, compression);*
- *Useful for chromatographic columns with industrial gases (for gas chromatography);*
- *Liquefaction of industrial gases by pressure;*
- *Pumping of liquid and gas phase of industrial gases from any vessels, ISO-tanks;*
- *Refueling (reloading, recharging) different systems with indicated industrial gases.*

Main advantages of UPCS on oil-free compressor working with industrial gases:

- *Pumping of pure raw materials;*
- *Evacuation of the gas (vapor) phase, which is considered as loss (non-pumped residue);*
- *Collection of residues without the use of inert gases (nitrogen, other exhaust gases);*
- *Variability of construction (individual characteristics and needs of the consumer);*
- *High quality materials and components.*

THERMODYNAMIC PROPERTIES OF NITROGEN AT PRESSURE 0.101325 MPa (1 atm.)