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## SPECIFICATION

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 <u>air,</u> <u>nitrogen, argon, helium, carbon dioxide</u> 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:

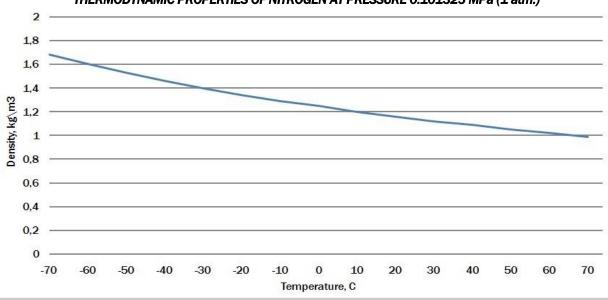
- Pump type: piston, oil-free
- Type of compressor: piston, oil-free, single-stage
- Quantity of cylinders: two-cylinder / four-cylinder
- Discharge pressure range: 0 3.5 MPa (0-35 bar)
- Minimum inlet pressure: 0 bar
- Possibility of self-priming: yes
- Ability to work under excessive inlet pressure: 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.)