

DAPOS purification device for argon and other industrial gases



DAPOS 03

DAPOS is a line of autonomous units designed for fine purification and drying of such industrial gases as argon, helium, nitrogen and hydrogen. It is designed for use with absorption and optical emission spectrometers, as well as other devices that use inert gas:

- as a plasma gas in CRL, ICP and microwave discharge spectrometers;
- as a carrier gas in chromatography,
- as a protective medium:
 - in arc, plasma or laser welding;
 - in germanium or silicon crystal growth;
 - in semiconductor manufacture.

These devices are an effective means of fully purifying gases and can be used to solve a wide range of research and production tasks requiring a pure inert medium or a given gas composition in sealed chambers (boxes), processing installations and rooms.

The multi-stage gas purification system used in **DAPOS** is a combination of reagents based on Ti, Ca, CuO with sodium and calcium molecular sieves.

The system ensures consistent removal of all harmful impurities in gases and fine purification up to the total contamination level of 0.5 ppm.

- Oxygen is removed from hydrogen using catalytic hydrogenation.
- Oxygen, nitrogen and hydrogen impurities are removed from argon and other inert gases using the chemisorptive interaction of such impurities with reagents.
- The initially present moisture and the moisture of the reaction are removed from gases through their adsorption with molecular sieves.

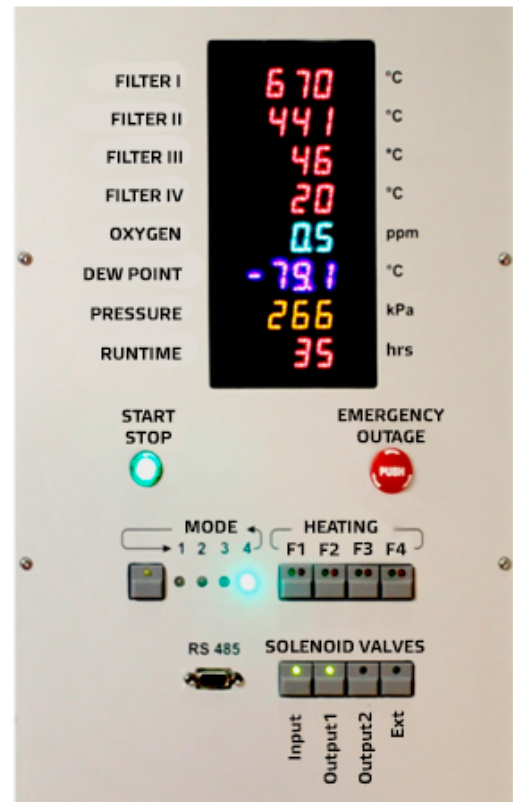


DAPOS 100

Filter regeneration is done by the working gas using the thermal method with automatic temperature mode adjustment. Regeneration mode can be engaged with a single button press.

Features

- High filter sorption capacity designed for the actual working gas quality obtained through the contamination of users' gas tanks and also as a result of production processes in boxes;
- Independent filter heating, allowing for the use of different configurations of reagents and catalysts depending on the type of gas being purified;
- Ability to integrate electronic sensors and sensors to monitor the gas purification intensity for each main impurity into the device;
- Automatic control system for set parameters of device operating modes;
- Wide range of allowable pressure in the device gas distribution system – from vacuum to 5 MPa;
- Filter regeneration without disconnecting the device from the gas mains using an additional valve and outlet;



- Efficient filtration of output gas from dust and other fine particles up to 1 µm in size;
- Wide range of connecting fittings ensuring high tightness in all production processes.

DAPOS specifications

	DAPOS 100	DAPOS 12	DAPOS 03	DAPOS 32	DAPOS 212 (203, 232)
Capacity, max, l/min	10	30	100	500	30 – 500
Estimated input contamination level, ppm	≤ 50	70 – 150	100 – 300	300 – 1000	70 – 1000
Output contamination level, ppm	< 0.5				< 0.5 based on the moisture volume fraction
Weight, kg	30	40	57	190	Standard
Dimensions, mm	750x420x320	730x590x360	1,150x660x370	1,800x840x580	DAPOS 12/03/32 enclosures