

ACS AIR COMPRESSING STATION



The system collects potentially radioactive air from inside hot cells during radiopharmaceutical production or after a malfunction of the synthesis modules.

The extracted air is then sent to a compression system and stored inside pressurised tanks. A Geiger probe, placed inside a Marinelli system (optional), monitors these tanks. Once the stored radioactive activity has decayed, the air, no longer contaminated, is discharged in the extraction conduit of the laboratory general ventilation.

The compression station can manage one or more COMECER production or handling cells.

Moreover, the compression station can be connected to the cyclotron vacuum pump. In the event of an accident or failure of the target, the contaminated air is stored in the relative tanks.

The air is compressed by means of a dual-purpose compressor which also acts as a vacuum pump.

The system starts automatically whenever the radioactivity level is too high, as measured in

the exhaust air duct by the Geiger counter. If no GM probe is available, the system can be started manually by the operator. As a result, the cell shifts from the "stand-by ventilation rate" to the "production ventilation rate" configuration in the following way:

- air input and output are simultaneously blocked by means of special automatic valves;
- the air output fan of the selected cell(s) is stopped;
- the solenoid valve connecting the exhaust duct of the cell with the ACS is activated (the valve opens only when the chamber minimum negative pressure threshold value has been attained, and it closes when the negative pressure reaches the maximum value).

Since the vacuum tank (plenum chamber) is characterised by a high negative pressure (the vacuum inside is generated by means of a compressor), when high radiation is measured, the air exchange is immediately closed and the accumulation device is activated. The cell is isolated and kept at a vacuum level (negative pressure) varying from -50Pa to -150Pa.

Features and Benefits

- Up to 16 chambers connected to the same system and up to 5 chambers in production simultaneously.
- Three-valve system mounted on each cell (2 pneumatic valves and 1 electric valve)
- Pressure gauges are used to measure the positive and negative pressure in the extraction circuit.
- 200-litre air accumulation tank and 200-litre storage tank
- 50-litre vacuum tank with storage function
- The membrane compressor is used to compress the air flow and create negative pressure in intake mode



Equipment lines

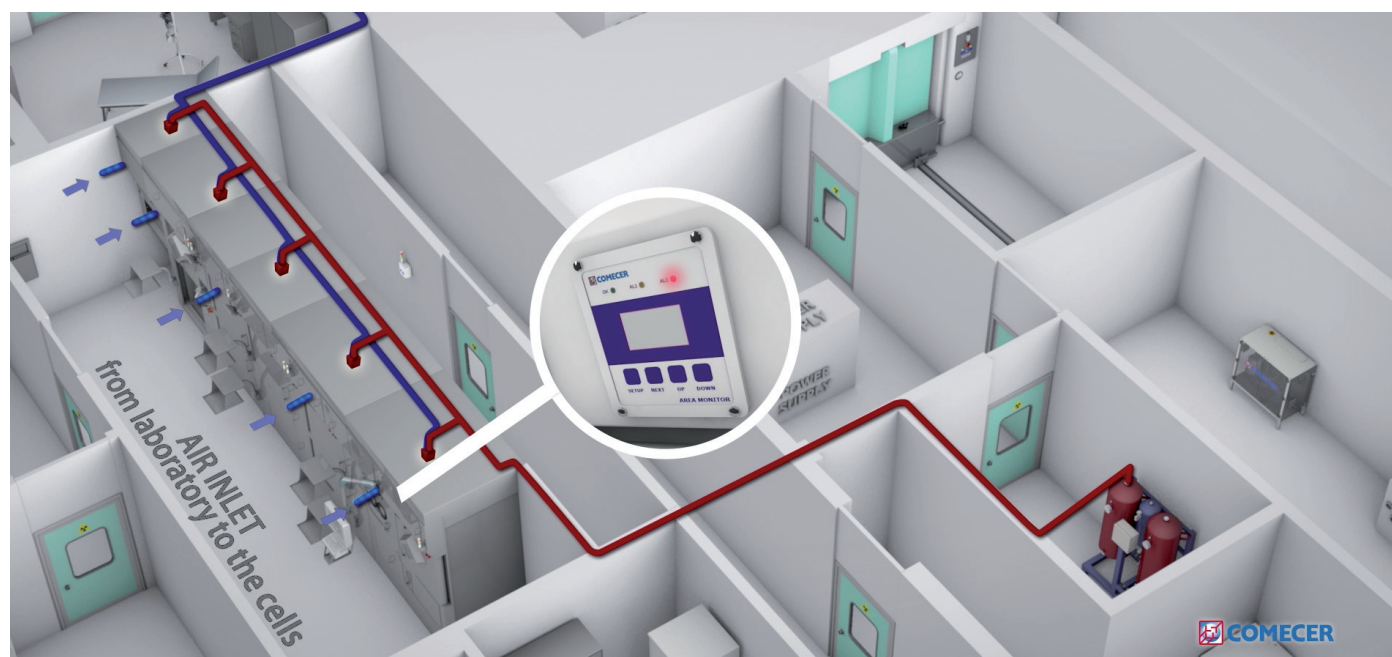
The machine is available in different equipment lines to fulfil the requirements of any production centre.

Models	ACS 400	ACS 800
Main equipment		
European electrical power supply	R	R
American electrical power supply	R	R
Nr of tanks	2	4
AMSE compliant	0	0

S= Standard; O= Option; R= Configurable when placing order

Technical data

Overall dimensions	mm	ACS400	1200 x 800 x 1820 (l x d x h)
Overall dimensions - mobile tank	mm		513 x 513 x 1576 (l x d x h)
Air storage tank capacity	l		200 each
Power pump	kW		0.35
Vacuum tank capacity (PLENUM CHAMBER)	l		50
Suction Capacity (related in environment conditions)	l	ACS400	1800
		ACS800	3600
Plenum chamber maximum negative pressure	bar		-0.4
Operating pressure	bar		4
Weight	kg	ACS400	250
		ACS800	370
International protection rating	IP		46



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