

FABTRON

The FT31 Series , PVSA Type N2, Ar and He Purifier

The FABTRON FT31 Series is a high-performance gas purification system specifically designed for nitrogen, argon, and helium applications. By integrating granular adsorbent media with a hollow fiber structured module, the purifier maximizes mass transfer efficiency within a compact footprint. Utilizing Pressure Vacuum Swing Adsorption (PVSA) technology, the system delivers stable, continuous, and energy-efficient gas purification under precisely controlled pressure and vacuum conditions.

The high-surface-area granular adsorbent selectively removes trace impurities such as H₂O, CO, CO₂, N₂ and hydrocarbons to ppm or sub-ppm levels, ensuring high purity output. The hollow fiber configuration enhances gas distribution uniformity, reduces channeling, and improves overall adsorption efficiency. Ambient-temperature operation maintains stable performance while minimizing thermal stress on system components.

Regeneration is achieved through pressure reduction and deep vacuum (typically below 1 torr), enabling thorough desorption and extended adsorbent service life. A dual-PVSA adsorber alternating design ensures uninterrupted high-purity gas supply while providing scalable capacity and simplified maintenance for industrial and laboratory applications.

Advantages

- * High Purification Efficiency
- * Ambient Temperature Operation
- * Energy-Efficient Regeneration
- * Extended Adsorbent Life
- * Continuous Operation
- * Low Pressure Drop Design
- * Modular & Scalable Configuration

Designed Flow Rate

- * 10 to 3,000 Nm³/Hr.

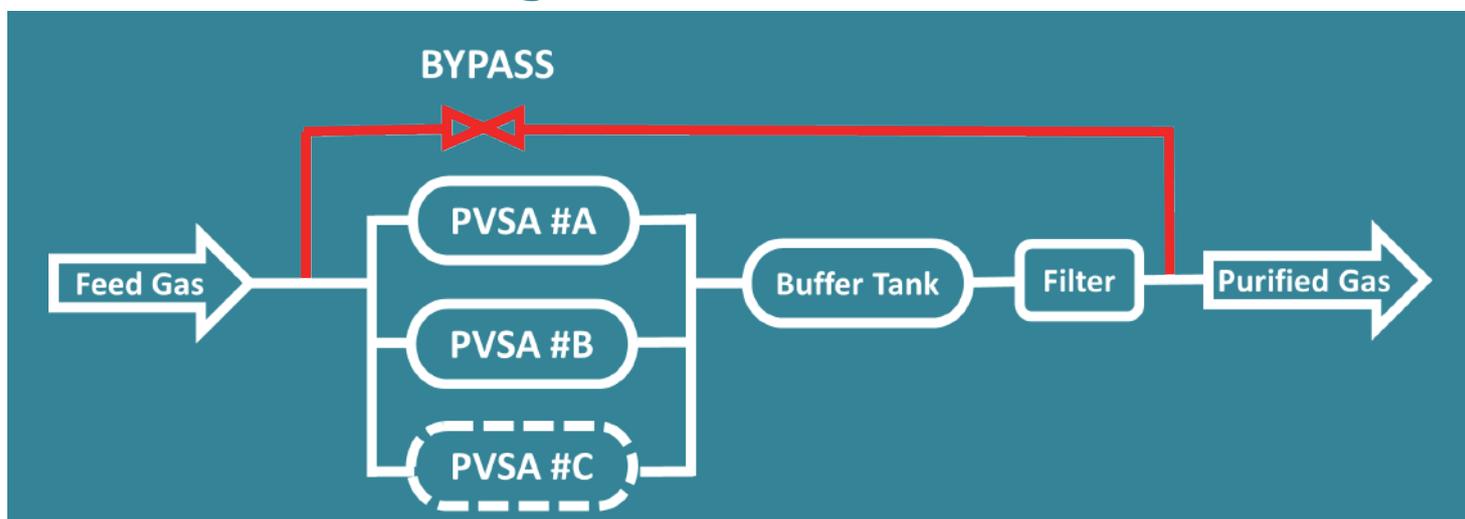




N₂, Ar & He PVSA Technology gas purifier. Increase purity up to >5-nines grade purity

Platform No.	Flow Rate (Nm ³ /Hr)	Gas Purified :	Impurities Removed :
FT31	10 to 3,000	N ₂	H ₂ O, CO, CO ₂ and CH ₄ to <1 ppm
		Ar, He	H ₂ O, CO, CO ₂ , CH ₄ and N ₂ to <1 ppm

Platform and Flow Diagram



Features Table

Instrumentation	Standard	Optional	Instrumentation	Standard	Optional
Fully Automated Controller by Programmable Logic Controller.	√		Inlet and Outlet Manual Isolation Valve.		√
12 inches Touchable Human Machine Interface.	√		Auto / Manual Bypass Valve.		√
Separate Control Power. 100-240 VAC.		√	Inlet Mass Flow Meter.		√
UPS for Separate Control Power.		√	Inlet and Outlet Pressure Transmitters.		√
Emergency Off Button (EMO).		√	Inlet and Outlet Analytical Port.		√
Emergency Remote Shutdown	√		Instrument Air Management System with Reservoir.		√
Purified Gas Moisture Transmitter.		√	Over Pressure Relief Valves.	√	
MODBUS or PROFINET Communication Port.	√		0.003µm Particle Filter, Metal or Teflon.		√
Alarm Light Tower.		√	Exhaust Box for H ₂ Blending System with H ₂ leak detector.		√
Analog Signal Output Interface. * Mass Flow Meter 4-20 mA Signal Output. * Pressure Transmitters 4-20 mA Signal Output. * Common Alarm Relay, N.C. * Gas Relay Indicating Purifier Status, N.C.		√	Purifier fixed bolster brackets.		√
			Backup Column with Auto/ Manual regeneration		√
			Outdoor Enclosure.		√