

FABTRON

The FT32 Series , PVSA Type Hydrogen Purifier

The FABTRON FT32 Series is an explosion-proof designed hydrogen purifier specifically engineered for operation in hazardous environments. Designed with explosion-proof electrical enclosures and safety-integrated control architecture, the system ensures reliable and compliant performance in classified areas while delivering high purity hydrogen.

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 provides stable, continuous, and energy-efficient hydrogen purification under precisely controlled pressure and vacuum conditions.

The high-surface-area granular hollow fiber selectively removes trace impurities such as H₂O, CO₂, CO, N₂, and hydrocarbons to ppm or sub-ppm levels. The granular hollow fiber configuration enhances gas distribution uniformity, reduces channeling, and improves adsorption efficiency, while ambient temperature operation minimizes thermal stress and enhances system reliability.

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 hydrogen supply, while the robust explosion-proof construction provides an additional layer of safety for hydrogen applications in hazardous areas.

Advantages

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

Designed Flow Rate

- * 10 to 3,000 Nm³/Hr.



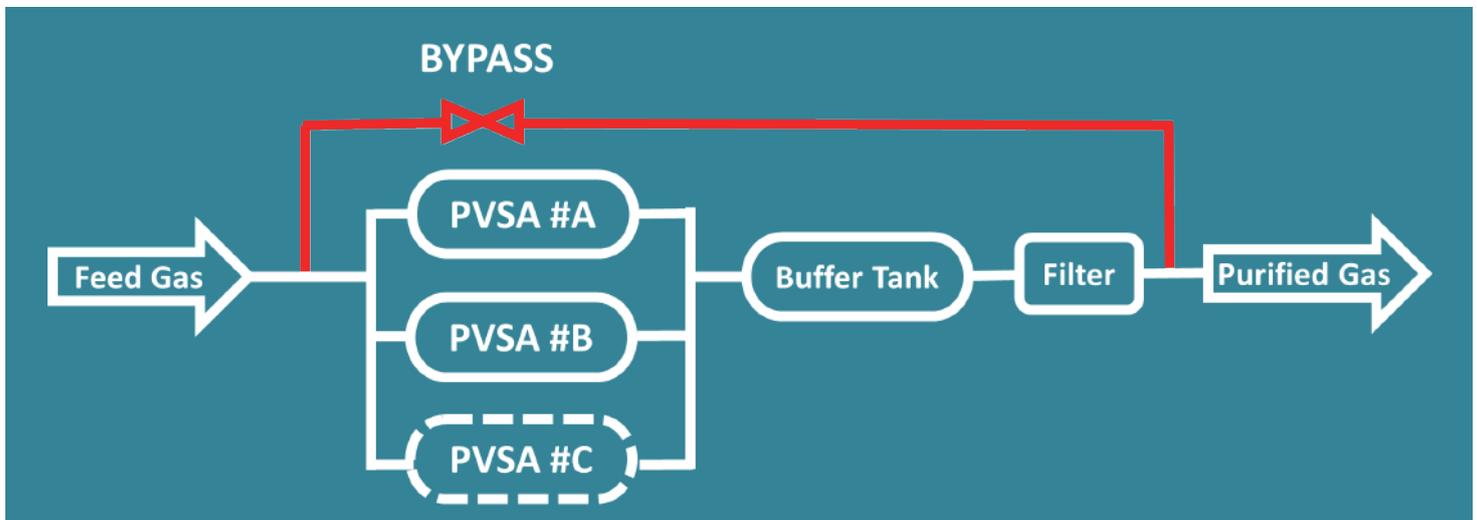


H2 PVSA Technology gas purifier.

Increase purity up to >5-nines grade purity

Platform No.	Flow Rate (Nm3/Hr)	Gas Purified :	Impurities Removed :
FT32	10 to 3,000	H2	H2O, CO, CO2, CH4, N2 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 Pneumatic Auto Isolation Valve.	√	
12 inches Touchable Human Machine Interface.	√		Inlet Mass Flow Meter.		√
Separate Control Power. 100-240 VAC.		√	Inlet and Outlet Pressure Transmitters.	√	
UPS for Separate Control Power.		√	Inlet and Outlet Analytical Port.	√	
Emergency Off Button (EMO).	√		Instrument Air Management System with Reservoir.	√	
Emergency Remote Shutdown	√		Z-Purge for Electrical Cabinet & Argon Cycle Purge System.	√	
Purified Gas Moisture Transmitter.		√	Exhaust Duct with Hydrogen Leak Detector	√	
MODBUS or PROFINET Communication Port.	√		Over Pressure Relief Valves.	√	
Alarm Light Tower.	√		0.003µm Particle Filter, Metal or Teflon.		√
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.	√	