

LABTRON

Low Flow Auto-Regenable Gas Purifier

The LABTRON series product is a gas purifier that uses Hollow Fiber Membrane technology. It is a purification system capable of processing gas at large flow rates, ranging from 100 slpm to 500 slpm. It is applied specifically by laboratory, semiconductor manufacturers, display manufacturers, and gas plants that require purification of gases at low flow rates. This purifier is capable of performing the purification process at room temperature with extremely low power consumption, while delivering sub-ppb level purification performance.

The LABTRON series purifier is equipped with a 10-inch Human-Machine Interface (HMI) color touchscreen and a programmable controller (PLC) to carry out purification and regeneration processes automatically. It can be used immediately after start-up and requires no consumables to operate. The LABTRON series purifier is the only electronic-grade gas purification system in the industry that provides very low operating cost and high reliability.



Special Features

- ✓ Auto regenable, no consumable parts.
- ✓ Ambient temperature absorption, big power saving.
- ✓ No cold start sequence, start to purify.
- ✓ Not Dangerous Good, low chemical reaction, safe and high reliability.



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Tronic Purity, Inc.

GAS Analytical
Delivery
Purification

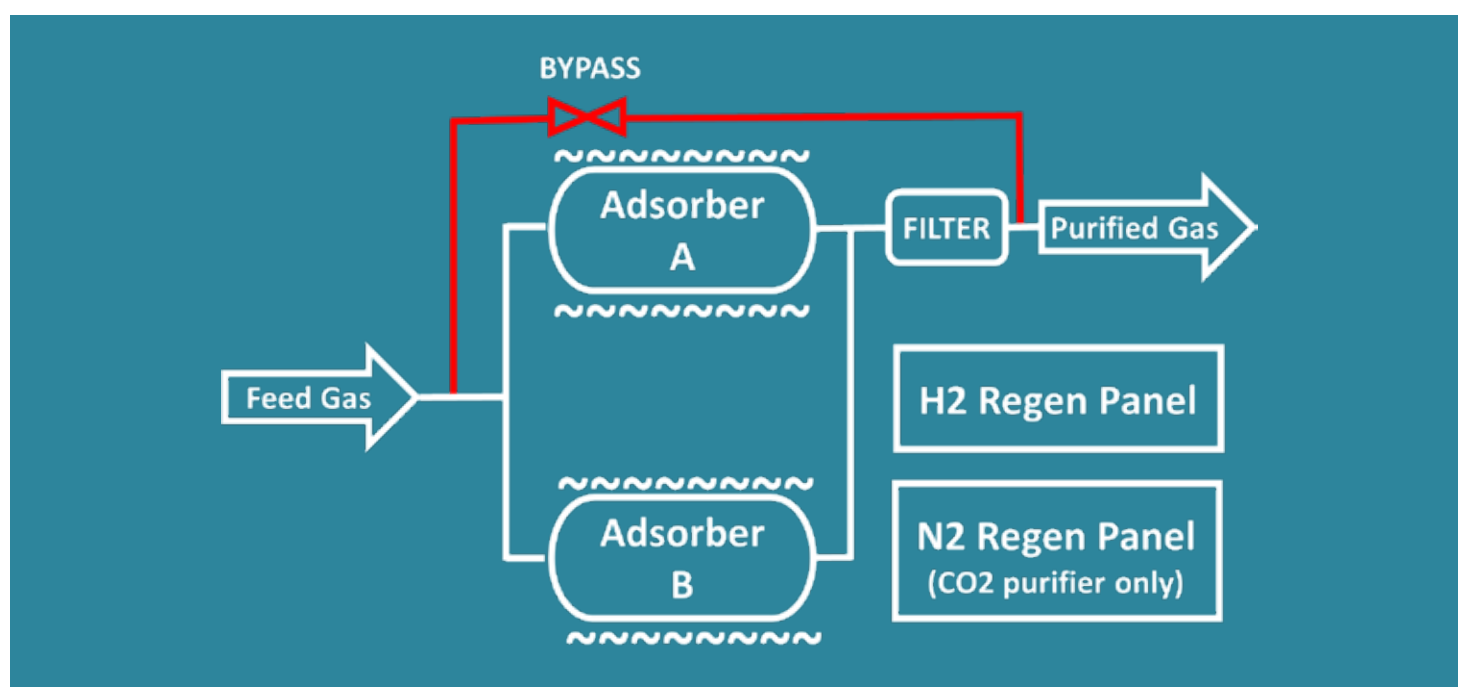


Ar, He, N2 and CO2 regenerable gas purifiers. 6-nines to 9-nines grade purity.

LB1 Ar, He, N2, CO2 Purifier Platform Standard Features

Instrumentation	Standard	Instrumentation	Standard
10" Color Touchscreen HMI.	✓	Manual / Auto Bypass Valve	✓
Programmable Logic Controller (PLC).	✓	Over Pressure Relief Protection	✓
Communication. (MODBUS / Ethernet)	✓		
Emergency Remote Shutdown	✓		
Flow Rate Range:	Gas Type	Impurities Removal	
Flow Rate : 100 ~ 500 slpm	Ar, He, N2	CH4, H2O, O2, H2, CO, CO2 to < 1 ppb	
Flow Rate : 100 ~ 500 slpm	CO2	H2O < 1 ppb, O2 < 100 ppt, Organics, Acids, Bases < 5 ppt, Metals < 1 ppb, Refractory Compounds to < 1 ppt	

LB1 Platform

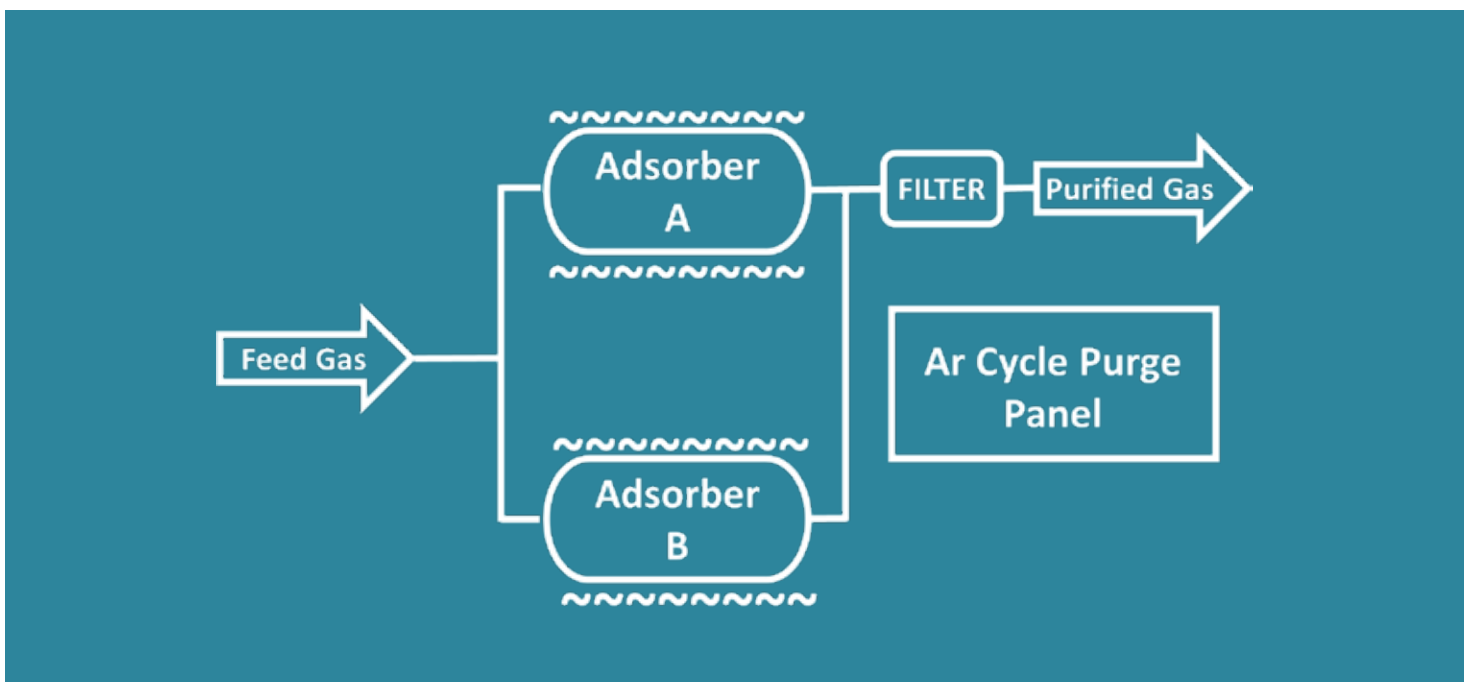


Hydrogen regenerable gas purifiers. 6-nines to 9-nines grade purity.

LB2 (Hydrogen) Platform Standard Features

Instrumentation	Standard	Instrumentation	Standard
10" Color Touchscreen HMI	√	Auto Inlet Isolation Valve	√
Programmable Logic Controller (PLC)	√	Over Pressure Relief Protection	√
Communication. (MODBUS / Ethernet)	√	H2 Leak Detector	√
Emergency Remote Shutdown	√	Argon Cycle Purge	√
Flow Rate Range:	Gas Type	Impurities Removal	
Flow Rate : 100 ~ 500 slpm	H2	CH4, H2O, O2, CO, CO2 to < 1 ppb	

LB2 Platform

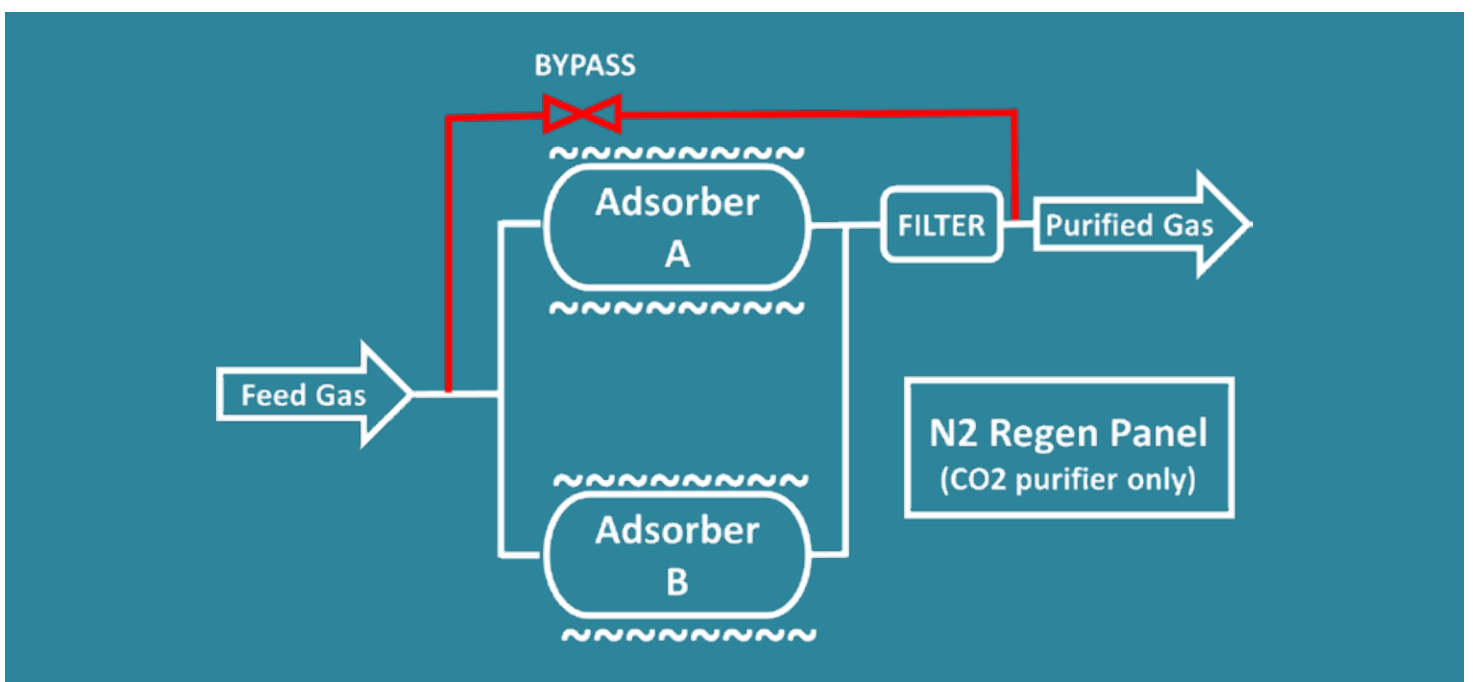


Oxygen, CDA and CO2 regenerable gas purifiers. 6-nines to 9-nines grade purity.

LB3, O2, CDA, CO2 Platform Standard Features

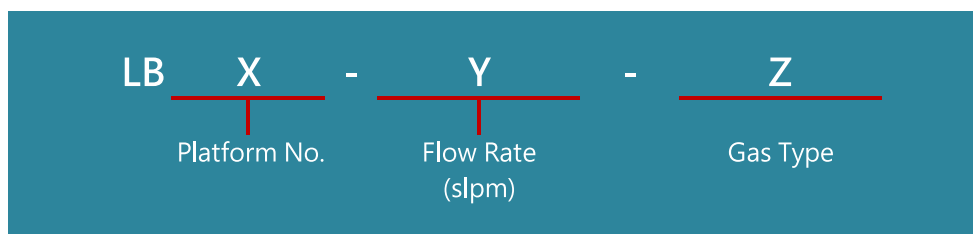
Instrumentation	Standard	Instrumentation	Standard
10" Color Touchscreen HMI.	√	Manual / Auto Bypass Valve	√
Programmable Logic Controller (PLC).	√	Over Pressure Relief Protection	√
Communication. (MODBUS / Ethernet)	√		
Emergency Remote Shutdown	√		
Flow Rate Range:	Gas Type	Impurities Removal	
Flow Rate : 100 ~ 500 slpm	O2	CH4, H2O, H2, CO, CO2 to < 1 ppb	
Flow Rate : 100 ~ 500 slpm	CDA	H2O < 1 ppb, Organics, Acids, Bases < 5 ppt, Metals < 1 ppbV, Refractory Compounds to < 1 ppt	
Flow Rate : 100 ~ 500 slpm	CO2	H2O < 1 ppb, Organics, Acids, Bases < 5 ppt, Metals < 1 ppb, Refractory Compounds to < 1 ppt	

LB3 Platform





Numbering System



Process Gas Specifications					
LABTRON Series Model No.	LB*-100	LB*-200	LB*-300	LB*-400	LB*-500
Maximum Process Gas Flow Rate	100 slpm (6.0 Nm ³ /Hr)	200 slpm (12 Nm ³ /Hr)	300 slpm (18 Nm ³ /Hr)	400 slpm (24 Nm ³ /Hr)	500 slpm (30 Nm ³ /Hr)
Minimum Gas Flow Request	10 slpm	20 slpm	30 slpm	30 slpm	30 slpm
Regeneration Gas Consumption	5 slpm	10 slpm	15 slpm	20 slpm	25 slpm
Maximum Process Gas Inlet Pressure	9.8 Bar (142 psig)				
Minimum Process Gas Inlet Pressure	4.2 Bar (60 psig)				
Maximum Pressure Drop	<7 psid @ 100 psig as inlet				
Process Inlet Gas Temperature	0° C - 35° C				
Purified Gas Temperature	< 35° C				
Electrical Requirements					
Main Power	220 VAC, 1 Phase+E, 50/60Hz				
Installed Power	1.5 KW	2.2 KW	2.4 KW	2.8 KW	3.2 KW
Average Power Consumption	0.6 KW	0.9 KW	1.0 KW	1.2 KW	1.2 KW
System Control Unit	Programmable Logic Controller (PLC)				
Human Machine Interface (HMI)	10" Touchable Color Screen				
Communication Port	MODBUS / Ethernet RJ-45 Connection				
General Requirements					
Instrument Air Pressure (CDA or N ₂ filtered to 10 µm)	4 Bar~6 Bar (58~87 psig)				
Environment Temperature	5°-35°C				
General Specifications					
Height	1,800 mm				
Width	800 mm				
Depth	830 mm				
Process Gas Inlet Connection	LB1 & LB3 Platform: 1/2" MVCR, LB2 Platform: 1/2" FVCR				
Purified Gas Outlet Connection	LB1 & LB3 Platform: 1/2" MVCR, LB2 Platform: 1/2" FVCR				
Regeneration Vent Outlet Connection	LB1 & LB3 Platform: 1/2" MVCR, LB2 Platform: 1/2" FVCR				
Hydrogen Regeneration Gas Inlet Connection (For LB1 Platform)	1/4" FVCR				
Argon Cycle Purge Gas Inlet Connection (For LB2 Platform)	1/4" MVCR				
Instrument Air Inlet	1/4" Compression Fitting				
Clearance Around Purifier	≥1 meter for front and rear sides				
Tube Surface Treatment	SUS316L-BA and EP after adsorbers				