

## New NITROSWING® Modular PSA Nitrogen Generators

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What has been changed and improved ?



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# A major step forward

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- Unprecedented productivity
- Enlarged and optimized HMI
- Extended data communication capabilities
- Improved piping and valves design
- Faster reaction time
- New ergonomic design



# Drastically improved performance

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The new NITROSWING incorporates a new high efficiency Carbon Molecular Sieve (CMS) allowing a major gain of productivity and a reduction of air consumption.

*Example* : For an 8 modules NITROSWING® @ 0,1 vol.% O<sub>2</sub> residual and 7,0 bar(g) air pressure :

- Productivity is improved by **48%**
- Air factor is improved by **22%**

Performances	Old line	New line
Flow (Nm <sup>3</sup> /h)	29,6	44,3
Air factor	3,88	3,09

# Enlarged / Optimized HMI

## SIEMENS SIMATIC PLC



- ✓ Siemens S7-1200 PLC
- ✓ Siemens KTP700 Basic 7" Touch Panel
- ✓ Remote Control & Monitoring through Web
- ✓ USB-Data logging (every Minute for 450 Days)
- ✓ Optional Wi-Fi Connection with App for Smartphone or Tablet
- ✓ No Control Lamps & Switches anymore
- ✓ External Power Switch on Left Side Cabinet



# Enlarged / Optimized HMI

## 7" Colour Touch Screen

**NOXERIOR**  
Next Generation Gas Solutions

12/31/2000 10:59:59 AM

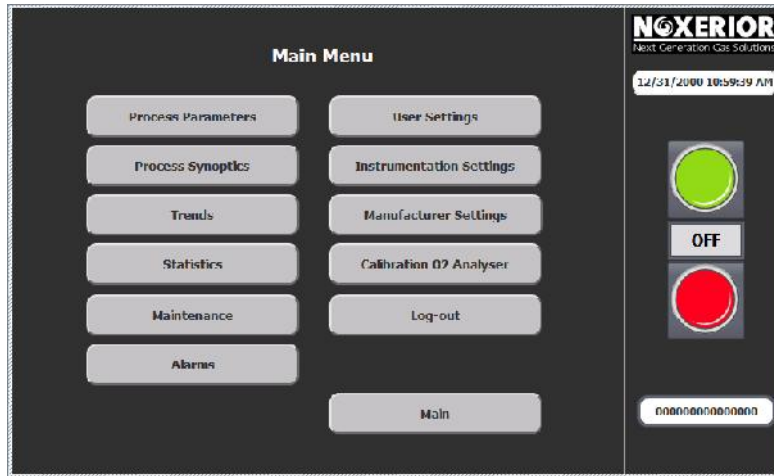
**Main Menu**

Process Parameters	User Settings
Process Synoptics	Instrumentation Settings
Trends	Manufacturer Settings
Statistics	Calibration O <sub>2</sub> Analyser
Maintenance	Log-out
Alarms	

OFF

0000000000000000

Main

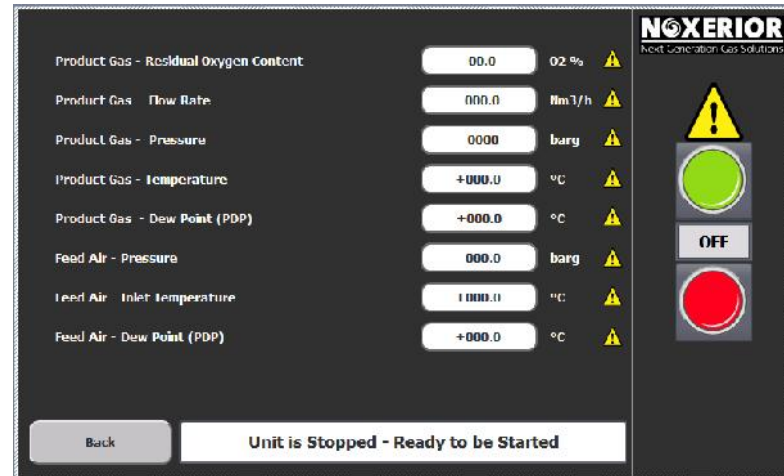


**NOXERIOR**  
Next Generation Gas Solutions

Product Gas - Residual Oxygen Content	00.0	O <sub>2</sub> %	!
Product Gas - Flow Rate	000.0	Nm <sup>3</sup> /h	!
Product Gas - Pressure	0000	barg	!
Product Gas - Temperature	+000.0	°C	!
Product Gas - Dew Point (PDP)	+000.0	°C	!
Feed Air - Pressure	000.0	barg	!
Feed Air - Inlet Temperature	1000.0	°C	!
Feed Air - Dew Point (PDP)	+000.0	°C	!

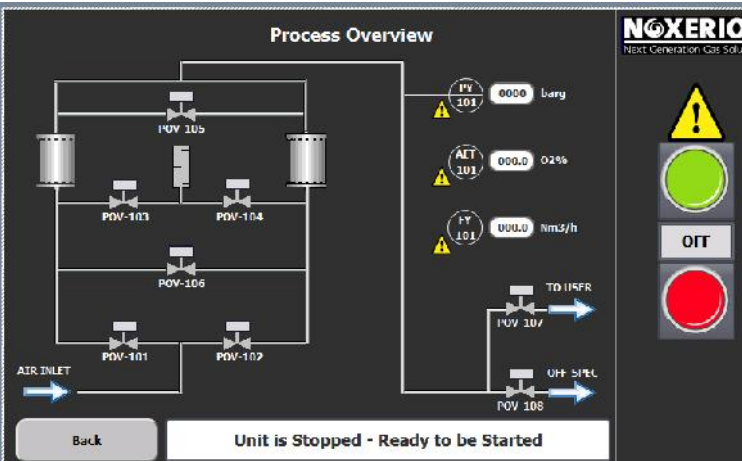
Unit is Stopped - Ready to be Started

Back



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**Process Overview**



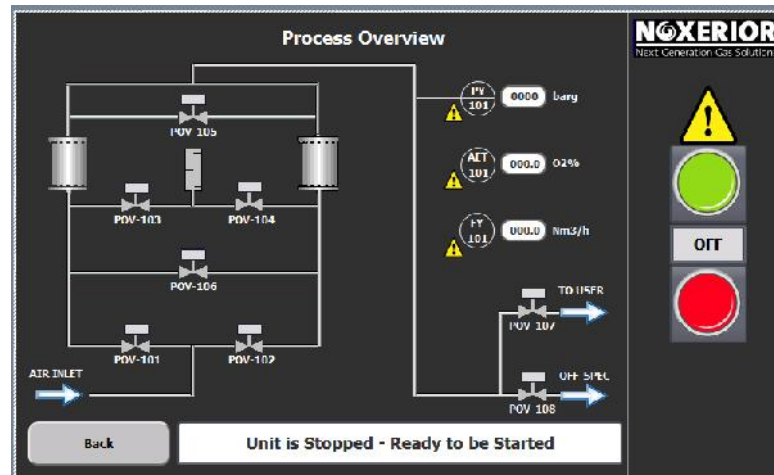
0000 barg

000.0 O<sub>2</sub>%

000.0 Nm<sup>3</sup>/h

Unit is Stopped - Ready to be Started

Back



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**Product Gas**

Residual Oxygen Content

Flow Rate

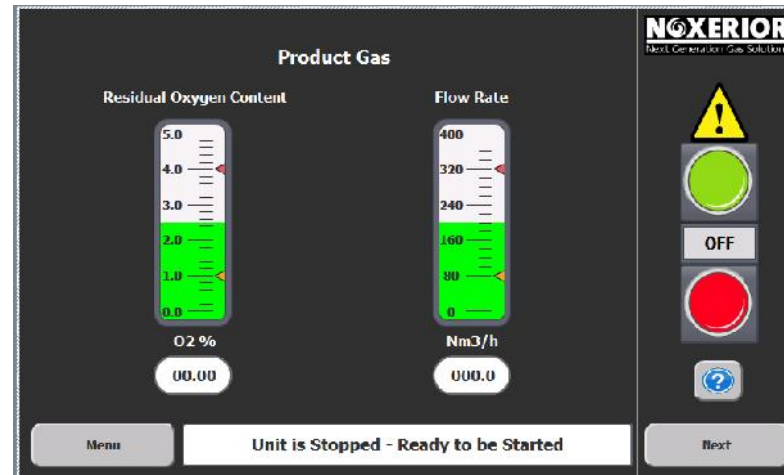
00.00 O<sub>2</sub> %

000.0 Nm<sup>3</sup>/h

Unit is Stopped - Ready to be Started

Menu

Next



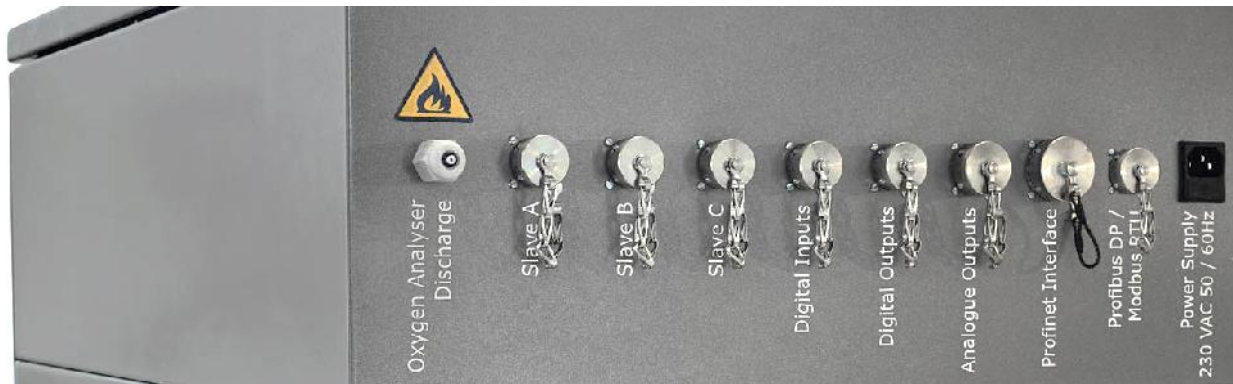
# New Look

Redesigned ergonomic cabinet





# Extended Data Communication Capabilities



## ) *Standard Features*

- Connections for Control of up to 3 Dual Banks
- Digital Output Signals  
(Run – Stand-by – Common Alarm)
- Digital Input Signals (max. 14)
- Profinet Industrial Ethernet *Interface*

## ) *Optional Features*

- Analogue Output Signals (max. 8)
- Modbus RTU or Profibus DP



# Improved Onboard Instrumentation

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- Newly included Nitrogen Pressure Transmitter
  - No fixed Hysteresis anymore between Run / Stand-by Mode
  - Adjustment of Stand-by Pressure through HMI
- Process Pressure Gauges on the side

## *Optional*

- Oxygen Analyser with Zirconium-Oxide Sensor
- Electronic Flow Product Meter
- Pressure Transmitter for Feed Air
- Temperature Transmitter for Feed Air & Nitrogen
- Moisture Transmitter for Feed Air & Nitrogen

**New** : can be installed turnkey in the cabinet

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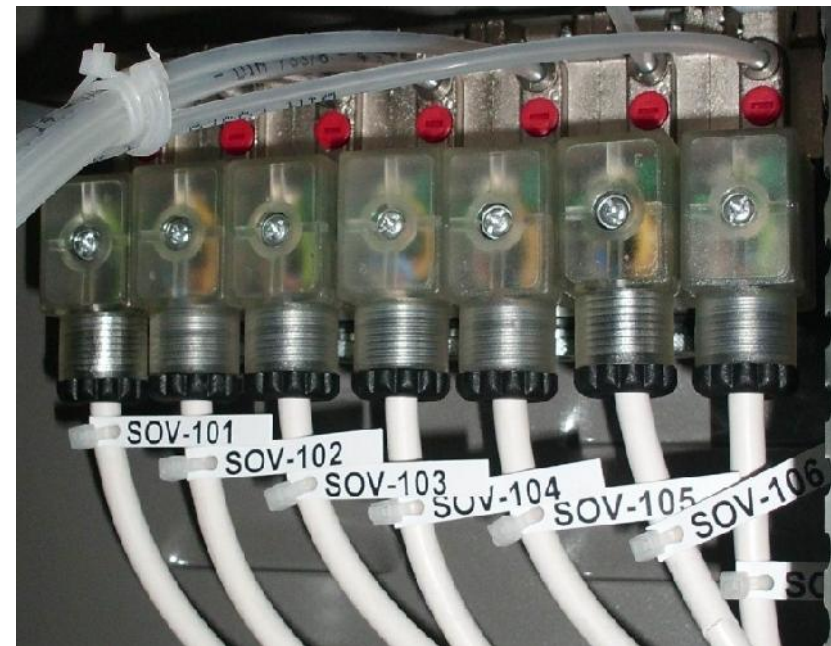


# Improved Process Piping & Valves

## Reduced number of Components

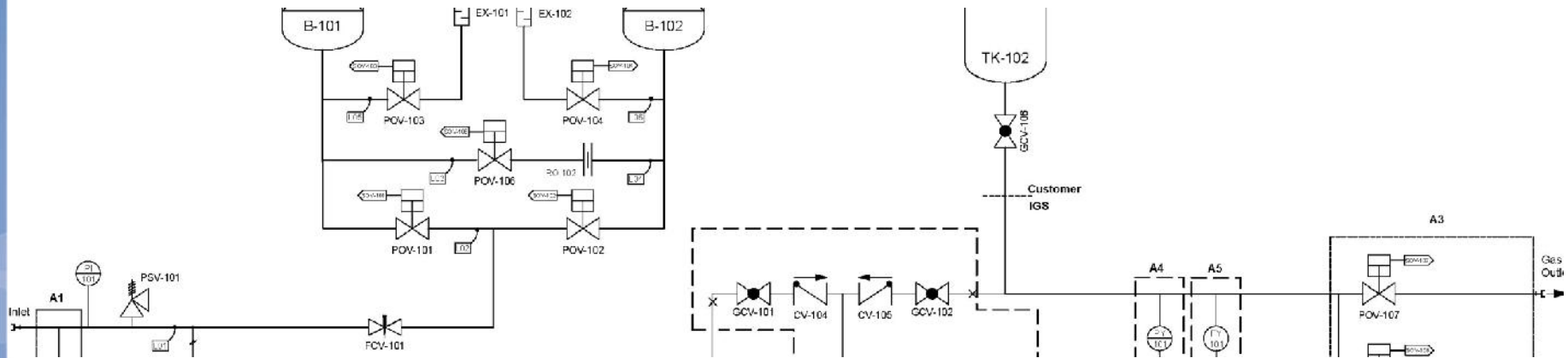
Solenoid Valves Manifold replace Single Solenoid for each Process Valve

- ✓ No more RC Filter : reduced failure risk
- ✓ Reduced number of Fittings
- ✓ Improved Maintenance Access
- ✓ Reduced Energy Consumption by 75%



# Faster Reaction Time

## Improved PSA Process

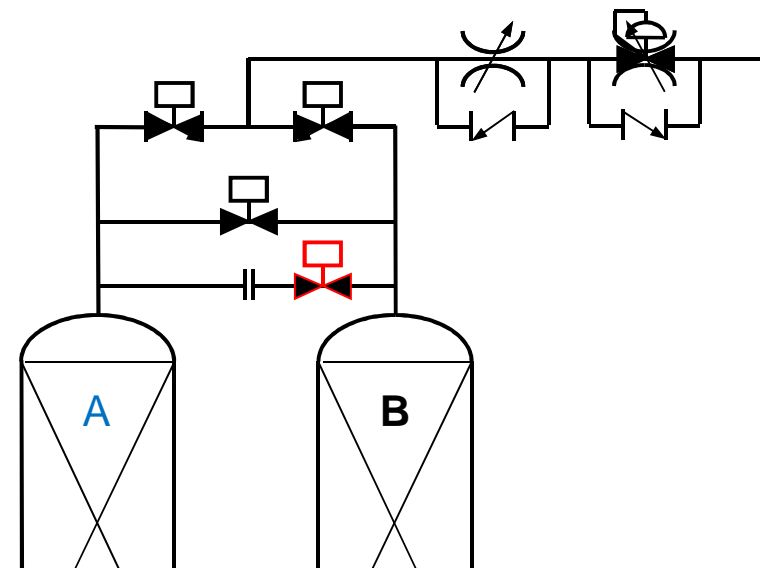


- Pneumatic Valve in Sample Supply Line to O<sub>2</sub>-Analyser

✓ No Loss of Product Gas during Stand-by

- Pneumatic Valve in Purging Line for Process Freezing

✓ Almost Immediate Production after Start



# NOXERIOR & NOVAIR Group

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- French group founded in 1977
- 100% family-owned business
- World-class leading manufacturer of on-site Oxygen & Nitrogen generators
- International oriented: 85% revenue outside France in over 110 countries



# Certifications

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- Pressure Equipment Directive 97/23/CE – Module H
- ISO 9001:2008
- ISO 14001:2004
- ISO 13485:2012
- EMAS

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# Thank you for your attention

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## We look forward to your visit!

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