

## GLOBAL SERVICE NETWORK HANLA IMS

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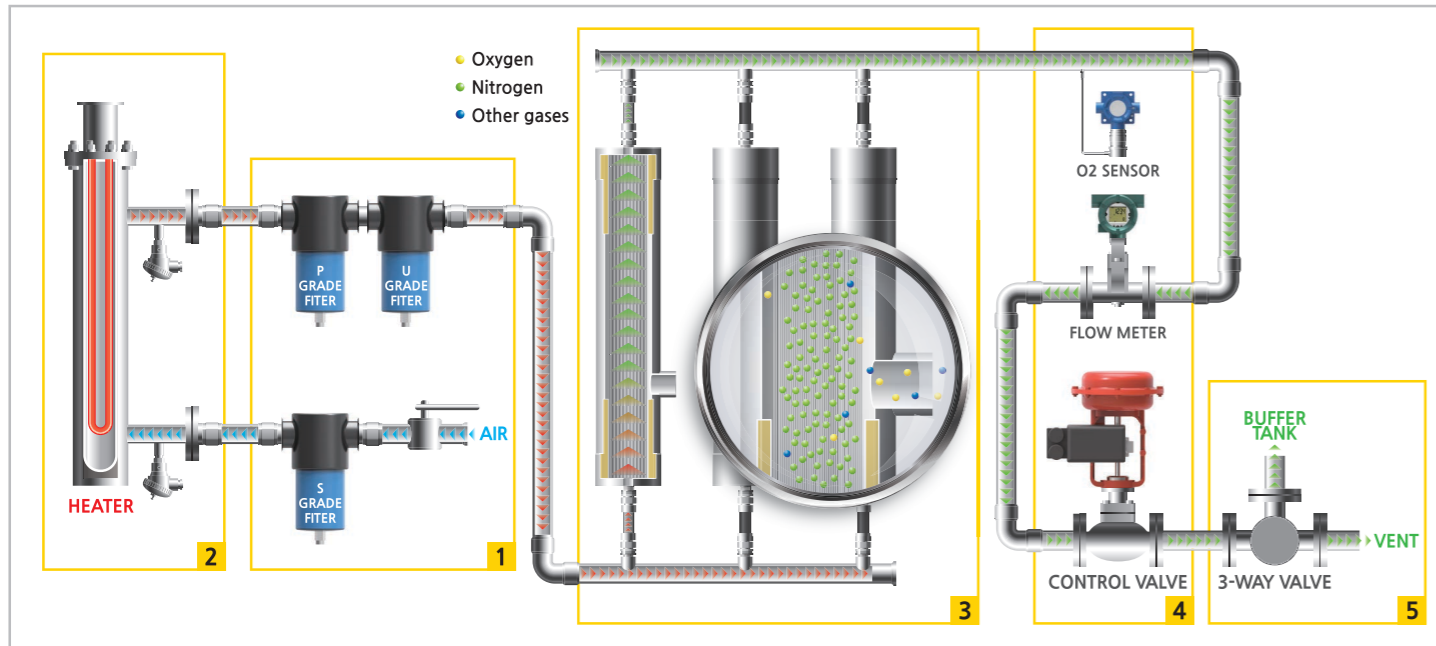
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# NITROGEN GENERATOR



# SYSTEM DESCRIPTION



### 1 Filter (U,P,S Grade)

- 1) When an air compressor supplies air to an air filter which is in a nitrogen generator panel, oil and solid particles in air are filtered.
- 2) Separated oil and moisture are automatically discharged by a filter drain unit.
- 3) A differential pressure gauge helps checking a replacement period.

### 2 Heater

- 1) Optimal temperature of air is essential point to produce fine quality nitrogen. In the optimal condition, moisture and liquid oil are evaporated and also, volume of nitrogen is increased.
- 2) Temperature is consistently monitored by a heat controller and kept in steady level.

### 3 Membrane

- 1) When compressed air flows into a membrane, various air components, such as oxygen, carbon dioxide and the other gasses are passed through hollow fibers in the membrane.

- 2) Oxygen is rapidly released outside with its high diffusion rate via the hollow fibers. But nitrogen has a low diffusion rate, so it is not filtered and flows to a next stage.
- 3) The nitrogen capacity is related to the flow rate, temperature and pressure of the compressor.

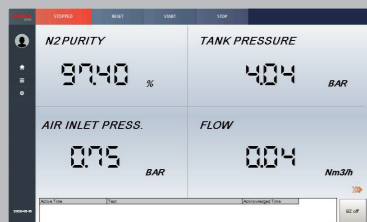
### 4 Automatic Control

- 1) A control panel keeps monitoring concentration of oxygen and flow of nitrogen which is controlled by automatic control valve.
- 2) If the concentration of oxygen is over than 3.5%, an operator receives a system alarm. And if the oxygen level is over than 4%, the system is automatically shut-down.

### 5 Charge / Discharge

- 1) Nitrogen is charged to a buffer tank up to 10 bar. When it is lower than 5 bar, nitrogen is automatically recharged to the buffer tank. (Adjustable)
- 2) If quality of nitrogen is not matched with a target level of the system, the nitrogen is automatically discharged through an exhaust line.

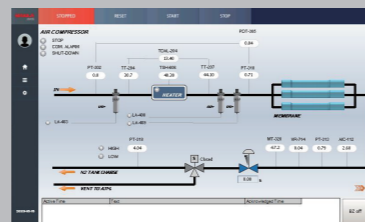
# MONITORING



**MAIN MONITORING**  
 N2 PURITY  
 AIR INLET PRESSURE  
 N2 TANK PRESSURE  
 N2 FLOW RATE



**GAS DETECTOR MONITORING**  
 SENSOR VALUE  
 AUDIO & VISUAL ALARM



**P&ID MONITORING**  
 N2 PURITY / FLOW RATE  
 AIR INLET / N2 TANK PRESSURE  
 OXYGEN CONTENT  
 TEMPERATURE, DEW POINT

# SPECIFICATION

SPECIFIC DATA			
Model	NTGT series	NTGT - Capacity ex) NTGT-160	
Operating Principle	Membrane Separation		
Membrane Arrangement	Parallel		
Location	Safe Area - Weather Protected ( IP44 (Control section) )		
PERFORMANCE DATA			
Nitrogen flow - Capacity	Up to 300	Nm <sup>3</sup> /h	
N2 Purity	97	Vol%	
N2 Dew Point (At atm. Pressure)	-65	°C	
Outlet Pressure (Process Design)	10	Barg	At Nitrogen Generator Outlet
N2 System Buffer Tank Start/Stop Settings	5-10	Barg	Adjustable
Outlet Temperature (max)	50	°C	
Filter	Particle Size	0.01	µm ISO 8573.1:2009 Class1
	Oil Remove	99.99	% ISO 8573.1:2009 Class1
ELECTRIC POWER REQUIREMENTS			
Heater	Voltage	440/60/3	V/Hz/ph
	Power	4	kW
Control Panel	Voltage	220/60/1	V/Hz/ph
	Power	0.5	kW

# FEATURES

1. Easy adjustable parameter
2. Remote control
3. Serial communication (option) - Modbus RTU (RS-485)
4. Gas detection monitoring(option)
5. Certification : ABS Type Approval
6. Dual system (Cross over)

# DESCRIPTION

