

PA SYSTEM

Propane Air Mixer—SNG Generator

Advantages of the System

- ◆ GENERATES SNG USING AIR PRESSURE AND LPG (PROPANE GAS)
- ◆ DOES NOT REQUIRE ANY EXTERNAL POWER SOURCE – SUCH AS ELECTRICITY
- ◆ SAFETY DEVICES ENSURE TOTAL SECURITY OF THE SYSTEM

If an earthquake or other disaster occurs there is a high risk that gas supply lines will be damaged and supplies will be stopped until the pipeline is fully restored and found to be safe and the soundness of the gas grid is confirmed.

Digging up gas mains means cutting off supplies and again we can offer the PA System here to reduce the disruption to homes and businesses.

With the advent of CHP and Gas Heat Pumps many companies are using the PA System as a backup in case of gas supply failure, and in certain country areas where there is no Natural Gas these are also being used to drive the Heat Engines.

House builders can look to supply gas into homes before gas mains are laid again without costly conversions at a later date and usage of Natural Gas approved appliances and equipment in off grid areas.

*“This is a temporary use,
but our customers can use
gas until normal gas supplies
are recovered”*

*- Gas Engineer of Kamaishi Gas Co.,
Ltd on Japan NHK News following
2011 Earthquake and Tsunami
(It was two months before full gas
supplies resumed)*



PA4 (4 M³/Hr.)



WLPGA
Innovation Award
Winner 2012



PA30 Following Kumamoto Earthquake March 2016 (32 Units Installed)

Following on from disasters we are looking to restore lifelines as soon as possible, can you imagine not being able to get a hot drink not being able to wash not being able to get hot food and hospitals not functioning

If there are LPG appliances available these can be used immediately if not the choice is limited—change all nozzles and jets in Natural Gas appliances then change back once the supply has been restored or use an SNG Generator.



Using Natural Gas Burner with pure LPG (Propane)

Using Natural Gas Burner with Pure LPG (Propane) though the ITO PA System



Nara Prefecture, March 20th 2016

A newly built citizen centre purchased two PA-30s. When the city office requested bids for construction, an architectural design firm won with a novel plan based on a concept of “disaster-resilience” ahead of everyone.

A PA-30 was included in the original plan to supply back-up gas to a small city gas cogenerating unit for power & heat as this facility will play a role as an evacuation centre at the time of disaster. Finally, 2 units of PA-30s adopted; one for 6 units of GHP, and another for cooking and hot water system.

Shizuoka Prefecture, April 25th 2016

A fire station purchased a PA-8 during renovation.

When a disaster occurs, they will establish a rescue headquarters and work in cooperation with the city government. At that time, their PA will be operated to provide firefighters themselves with hot water, hot meal, and hot shower after their hard rescue work.

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Highly Portable (PA30 30 M³/Hr.)

Following the Great East Japan Quake and Tsunami in 2011 it took 2 months for 90% of the city gas supply to be recovered. After only 17 days following the disaster we had been responsible for 7,000 households in Kamaishi city having gas supplies and this was featured in a broadcast by NHK News, the main broadcaster in Japan. Without the PA System the devastation and despair would have been even greater.

Key Points to Remember

Requires no external power source such as electricity

Generates SNG using LPG & Air pressure

Very portable, small & light easily transportable

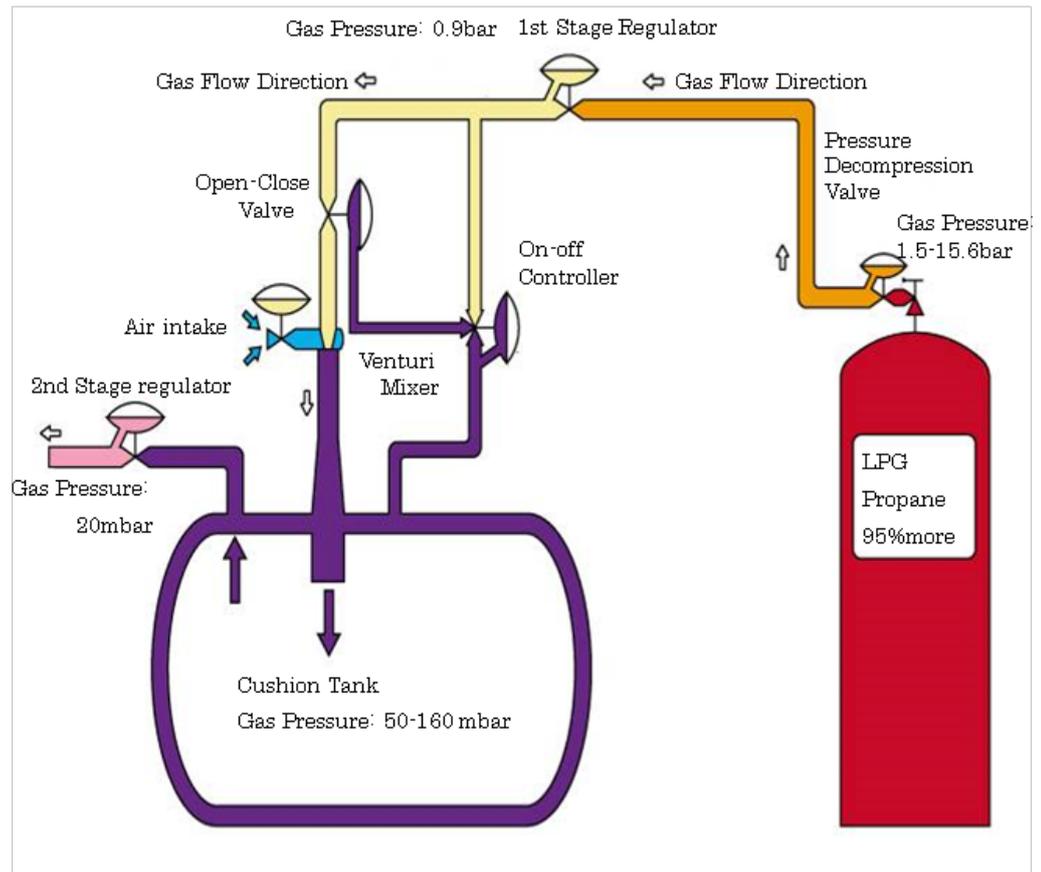
All units self-contained with weather proof covers and wheels

No need to change nozzles or jets in appliances (or appliances)

Provides stable calorific value without adjustment

Safety devices ensure total security

Feeder gas LPG – easily obtainable



Basic Operation

Operation

Simple Process

Our Propane/Air Mixer system uses propane from a cylinder, bank of cylinders or tank and via the shut off valve, the LPG enters the first stage regulator and the open close valve then straight into the venturi mixer. This open close valve ensures the correct amount of LPG enters the venturi.

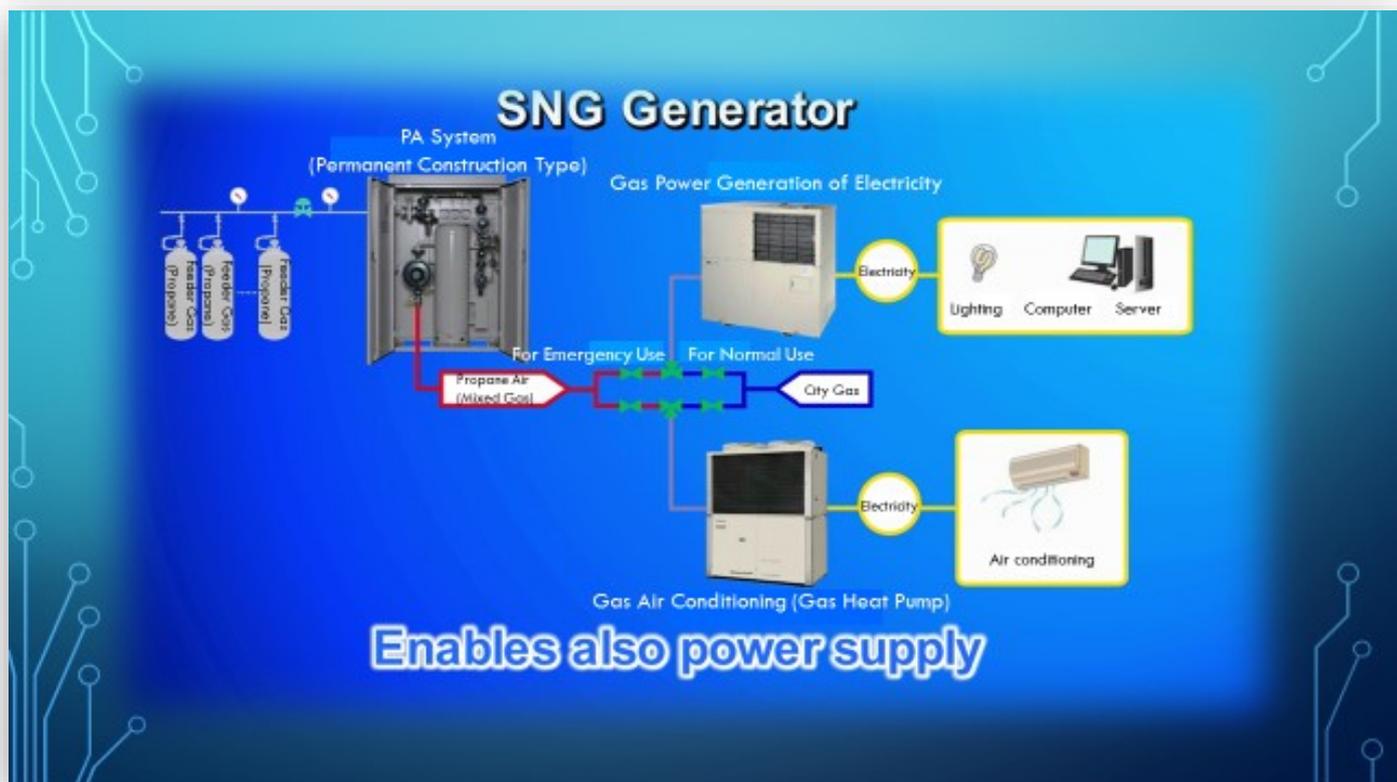
Within the venturi it draws in air through the air intake at exactly the precise level, the venturi has a nozzle which is specifically calibrated for the matched gas mix. The mixed gas then flows into the cushion tank where we ensure an even flow rate for the outlet. The final pressure reduction is carried out at the second stage regulator and we then supply at the required supply pressure.

The complete process is meticulously controlled by a number of components which give safety and control to the system — an on off controller which controls the open close valve assisting in obtaining the correct gas mix plus UPSO and OPSO safety devices with impulse lines to various parts of the system.

A simple idea, straightforward process and no electricity.

Model	PA4	PA8	PA30	PA60	PA90
Type of Gas	12a (Propane Air Mixed Gas)				
Resource Gas	LPG Containing 95% or more Propane				
Mixed Gas	4 Nm ³ /hr	8 Nm ³ /hr	30 Nm ³ /hr	60 Nm ³ /hr	90 Nm ³ /hr
Max Capacity	65.1 kW	130.3 kW	488 kW	976 kW	1,464 kW
Mixed Gas	58.6 NMJ/m ³				
Total Calorific Value	14,000 Nkcal/m ³				
Outlet Pressure	1.5—2.5 kPa				
	15—25 mbar				
Weight	About 25 kg	About 50 kg	About 150 kg	About 300 kg	About 350 kg
Dimensions	W613 x H 708 x D 392	W 862 x H 884 X D390	W 1649 X H 1068 X D 612	W 1649 X H 1525 X D 555	W 1958 X H 1150 X D 668

Technical Data



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