



FAS - SNG/Propane-Air Mixing Units
Effectivity - Quick Solution - Independency



▶ SNG / PROPANE-AIR MIXING UNITS

LPG can be mixed with air to produce a Synthetic Natural Gas (SNG). The mixture of propane with air in an appropriate ratio creates SNG or so-called PROPANE-AIR. The combustion characteristics of propane-air are very similar to those of natural gas so that propane-air and Natural Gas (NG) can be used interchangeably.

In case of peak supplies, e.g. in very cold winters, the natural gas supply system may be faced with supply problems to be sorted out. For the compensation and for managing such peak loads a propane-air mixture may be feeded into the natural gas supply system by the use of a corresponding mixing unit. Propane-air mixtures provide a convenient, consistent, high quality fuel with combustion characteristics similar to natural gas.

Mixing units type FAS 4000 are available as low pressure units „LP“ and as high pressure units „HP“.

▶ Operation Areas:

- ▶ For civil and for industrial use
- ▶ For use as primary energy source or as alternative (or integrative) source of energy
- ▶ Reserve gas supply for natural gas systems
- ▶ Covering of maximum demand by natural gas consumption
- ▶ Increase of capacity in already existing natural gas pipelines

▶ LOW PRESSURE MIXING UNITS TYPE FAS 4000 (LP)



▶ Technical Features:

- ▶ LPG/air mixture at pressures up to 600 mbar (100% propane)
- ▶ LPG/air mixture at pressures up to 450 mbar (100% butane)
- ▶ Automatic switch on/off (electro-pneumatic function)
- ▶ Steady wobbe index (or calorific value) of the mixture, adjustable by manual setting of air flow rate



- ▶ Version FAS 4000-32LP with vaporizer unit FAS 2000 in cabinet execution
- ▶ Max. capacity 30 m³/h of ready mixture
- ▶ Outlet mixture pressure max. 500 mbar
- ▶ Execution with aboveground, vertical storage tank, capacity 400 l

▶ Functional Description:

The mixing unit can have up to six mixers, each one dimensioned for a capacity determined with a geometric progression. The automatic mixer activation is managed by a programmed PLC installed in the control board. The sequence of mixer activation is programmed in order to support the mixture request immediately. The PLC continuously collects the status for mixture pressure by the pressure transducer and manages the mixers activation in order to keep the pressure value within the thresholds stated in the PLC data memory. The control board also manages alarm and status conditions.



- ▶ Version with 4 mixers in cabinet construction
- ▶ Max. capacity 640 m³/h of LPG-air-mixture
- ▶ Outlet mixture pressure max. 200 mbar

The number of mixers installed in mixing units depends on the mixture capacity requested and on the network volume. In fact, the network volume is useful to offset the difference between the produced. and the requested mixture demand.

Nos. of Mixers	Mixture max. capacity Nm ³ /h 3 to 31 steps	Network min. volume for good functioning (with working dP 0,1 bar)
2 mixers DN 80	3 steps: 210 Nm ³ /h	2 m ³
2 mixers DN 80	2 steps: 420 Nm ³ /h	5 m ³
3 mixers DN 80	7 steps: 490 Nm ³ /h	2 m ³
3 mixers: 2 mixers DN 80, 1 mixer DN 150	7 steps: 980 Nm ³ /h	5 m ³
3 mixers: 1 mixer DN 80, 2 mixers DN 150	7 steps: 1960 Nm ³ /h	10 m ³
4 mixers: 3 mixers DN 80, 1 mixer DN 150	15 steps: 1050 Nm ³ /h	2 m ³
4 mixers: 2 mixers DN 80, 2 mixers DN 150	15 steps: 2100 Nm ³ /h	5 m ³
5 mixers: 3 mixers DN 80, 2 mixers DN 150	31 steps: 2170 Nm ³ /h	2 m ³
5 mixers: 2 mixers DN 80, 3 mixers DN 150	23 steps: 3220 Nm ³ /h	10 m ³
6 mixers: 1 mixer DN 80, 5 mixers DN 150	19 steps: 5200 Nm ³ /h	10 m ³



▶ HIGH PRESSURE MIXING UNITS TYPE FAS 4000 (HP)

The LPG / compressed air mixing units produce LPG / air mixtures at an adjustable pressure from 1 to 4 bar. These units are suitable for civil and for industrial use. In fact LPG / air mixture can be used in order to supply a primary source of energy or to supply an alternative (or integrative) source of energy to natural gas.

▶ Technical Features:

- ▶ LPG/air mixture at pressures from 1 to 4 bar
- ▶ Flow rate 5% to 100%
- ▶ Steady wobble index (or calorific value) of the mixture, adjustable by manual or automatic setting (option)

Mixture Pressure with P mix.	Mixture Flow Rate Nm ³ /h*						
	100-50	150-50	200-65	250-80	250-100	300-100	300-125
1,0 bar	400	800	1600	2800	2800	4700	4700
2,0 bar	600	1200	2400	4200	4200	7000	7000
2,5 bar	700	1400	2800	4900	4900	7750	8200
3,0 bar	800	1600	3200	5600	5600	8500	9400
4,0 bar	1000	2000	3900	6400	7000	10000	12000

*Flow rates refer to a LPG/Air mixture with a calorific value of approx. Ho 9.500 to 15.000 kcal/Nm³ = 11,1 to 17,5 kWh/Nm³, Wo 10,0 to 14,7 kWh/Nm³, and specific gravity of approx. 1,4 (Air = 1,0). Receipt of LPG vapor and air pressure of 1,0 bar above mixture pressure.



- ▶ Version with vaporizer unit type FAS 3000 installed in 10 feet container
- ▶ Max. capacity 2100 m³/h of LPG-air-mixture
- ▶ Outlet mixture pressure max. 1,7 bar

▶ Certified according to DIN EN ISO 9001
SCC** (Service)



Subject to technical change without notice.

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