

Guascor Energy MODs&UPs: Conversion from engine type G-FL to G-SL

guascor-energy.com

Background

Guascor Energy is dedicated to continual enhancement of its products and solutions. The latest version of Guascor Energy Gas Engines exemplifies increased efficiency, robustness, flexibility, and ease of operation.

Simultaneously, there exists a substantial number of older G-FL engines (formerly known as FGLD) installed and operational worldwide.

In response, Guascor Energy has developed a modernization kit designed to transform a G-FL engine into a G-SL (formerly SFGLD). This transformation enables the engine to operate under contemporary conditions, capitalizing on the advantages offered by new engines.

Product Overview

There are two options for implementing this modernization kit:

a) MAINTAINING THE SAME POWER OUTPUT:

One of the primary distinctions between a G-FL and G-SL engine lies in the type of piston used.

The combustion chamber of a G-SL engine (Triflow) not only boasts a higher compression rate but also enables greater turbulence inside the cylinder, enhancing combustion and improving efficiency.



Figure 1 Triflow piston

b) INCREASING THE POWER OUTPUT TO MATCH A MODERN G-SL MAXIMUM LEVEL:

In this scenario, aside from replacing the aforementioned pistons, it is essential to replace the electronic ignition module and, in V engines, the vibration damper.

In some instances, adjusting the gas regulator screw and the knocking detection system might also be necessary.

Application

The kit is available for all engines from the G-FL series (formerly FGLD).

In the event of a power increase, a thorough inspection of the existing installation is necessary to ensure there are no mechanical interferences preventing the kit's implementation in the engine. Additionally, it is crucial to confirm that the installation can handle the additional power.

The key equipment to be examined includes the generator, circuit breaker, cables, cooling system, gas ramp, and exhaust system.

Benefits

The primary advantage of this solution is the enhanced output power, coupled with improved engine efficiency that leads to a reduction in gas consumption. Furthermore, there is a notable enhancement in emissions control.

The mechanical power increase can be as high as 17%, and the efficiency improvement can reach up to 2%, varying based on the engine type


Guascor Energy gas engines					
Models G-L & G-SL	Cyl	Pmec (kW)			
		1500 rpm	ΔP (%)	1800 rpm	ΔP (%)
G-18L	6L	275	-	300	-
G-24L	8L	360	-	400	-
G-36L	12 V	550	-	600	-
G-48L	16V	725	-	792	-
					
G-18SL	6L	314	14%	350	17%
G-24SL	8L	419	16%	453	13%
G-36SL	12V	630	15%	700	17%
G-48SL	16V	838	16%	906	14%

Figure 2 Output power increase after the transformation

Consider, for instance, the rise in power output from 600 kW to 700 kW in the G-36FL. This increase presents investors with a valuable opportunity to substantially boost profitability, whether by exporting surplus energy or by reducing consumption.

Moreover, a 2% improvement in efficiency directly correlates to a proportional reduction in gas consumption. This dual benefit significantly contributes to the economic viability of the power plant.

Published by Guascor Energy S.A.U.

Oikia, 44
20759 Zumaia (Gipuzkoa) Spain PO Box 30
Tel: (Int'l +34) 943 86 52 00
Fax: (Int'l +34) 943 86 52 10

www.guascor-energy.com
info@guascor-energy.com

Subject to changes and errors. The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract.

© Guascor Energy 2023

Guascor Energy is a trademark licensed by Guascor Energy S.A.U

