

## A.03

# Glycol Plant Optimisation

## Introduction

“How can I maintain high performance gas dehydration, whilst eliminating external gas consumption and reducing emissions from my glycol regeneration package?”

The answer is GLYNOXX®.

SUEZ’s patented GLYNOXX solution offers high purity glycol via a full recycle stripping gas system that essentially eliminates the need for continuous external sales/fuel gas consumption.

In addition, it also:

- Significantly reduces environmental emissions (via the internal closed-loop reconditioning/recirculation),
- achieves greater water dew point depression of gas without any external stripping gas consumption.

The GLYNOXX process is capable of producing high concentration lean glycol without the need for external stripping gas in most cases. This is a significant advantage over standard stripping gas technology that requires continuous external utility gas consumption, which also generates increased emissions.

To investigate options available for specific plants SUEZ offers Plant Optimisation Studies to minimize hydrocarbon gas consumption and environmental emissions, whilst also ensuring the plant is operating as efficiently as possible.

## The GLYNOXX Process

The use of stripping gas is a traditional technology used to achieve increased glycol purities in Gas Dehydration plants. Typically flash and/or additional fuel or sales gas passes through the Stripping Column, enhancing the regeneration process, before being emitted from the package (often vented to atmosphere/flare). Depending on the level of regeneration and purity of glycol required, this gas volume can be as high as 0.1% of the total gas rate being processed through the Gas Dehydration plant.



TEG Dehydration Package  
Location: Papua New Guinea

**SUEZ – Oil & gas systems**  
(incorporating Process Group)  
Australia - Korea - Middle East - Singapore - USA

[www.processgroupintl.com](http://www.processgroupintl.com)

Represented by:

## Glycol Plant Optimisation



SUEZ has developed the GLYNOXX solution to essentially eliminate external gas consumption and reduce the associated emissions which result from venting the stripping gas. This is achieved by continually recycling the stripping gas from a stripping column discharge, reconditioning it and returning it to the stripping column under pressure. Consequently, once the stripping gas circuit is charged during start-up, there is typically no external gas make-up and venting is minimized during operation. Due to this closed-loop stripping gas circuit the GLYNOXX solution will significantly decrease hydrocarbon gas losses and package emissions, maximizing the volume of saleable/usable gas.

The GLYNOXX solution can be applied to all new build packages and it can also be easily retrofitted to most existing plants. It requires minimal equipment modifications or additional equipment and therefore existing glycol regeneration packages can also be quickly upgraded at a relatively low cost.

### Advantages

- Significantly decrease consumption of saleable/usable gas
- Decreased plant emissions & carbon tax exposure
- Maintains high glycol purity and high levels of gas dewpoint depression
- Easily retrofitted to existing units
- Low CAPEX
- Rapid Payback

### Glycol Plant Optimisation

For existing plants, SUEZ offers complete Plant Optimisation Studies. The assessment is tailored to the client's requirements and may include:

- Implementation of the GLYNOXX stripping gas recovery/recycle process,
- Optimisation of gas type and use of stripping gas,
- Optimisation of gas or electric Reboilers,
- Conversion between gas and electric Reboilers,
- Optimisation of Glycol Pump operation,
- Optimisation of overall plant efficiency,
- OPEX minimisation.

At the completion of the study our client receives a detailed plant assessment report that includes:

- \$ Value of recovered gas,
- GLYNOXX payback time period,
- Plant optimisation recommendations,
- Carbon dioxide equivalent (CO<sub>2</sub>e) emission estimates before & after proposed optimisation,
- Economic modelling of optimisation recommendations.

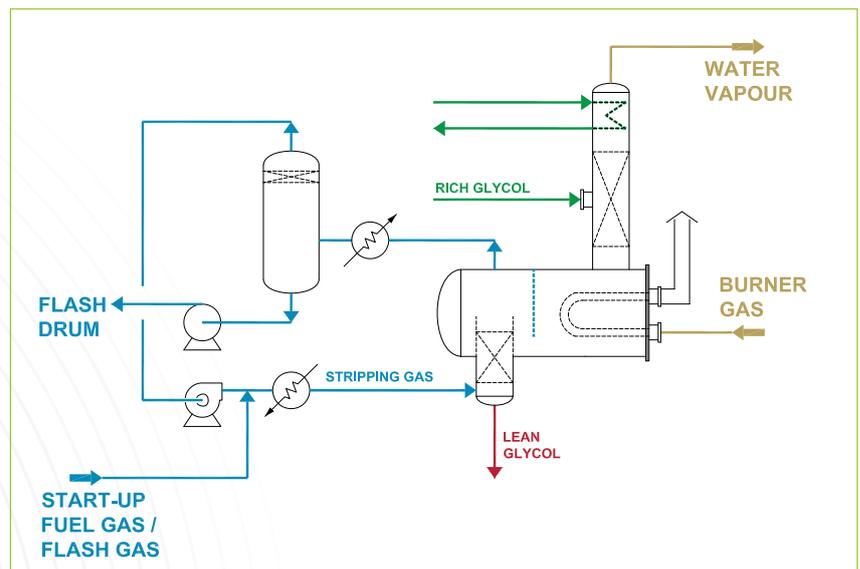
Optimisation studies and carbon emission assessments on other types of plants are also available. Please contact SUEZ environnement to discuss your requirements.

### Glycol Plant Modification for Existing Plants

Once a Plant Optimisation Study is complete, SUEZ environnement offers complete detailed design, fabrication, installation and commissioning services to implement your Plant Optimisation program.

SUEZ offers services to onshore and offshore Oil & Gas production facilities throughout Asia, Australia, Middle East, Caspian & North Africa regions.

Our experienced staff in Melbourne, Singapore and Abu Dhabi provide direct support regionally, while our global network of agents offer additional support and coordination as required.



Patented GLYNOXX® closed-loop process – basic process shown in blue