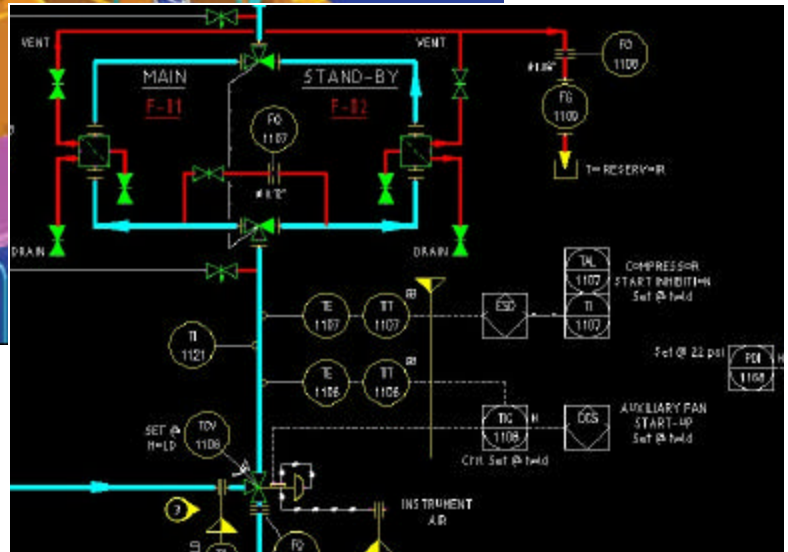
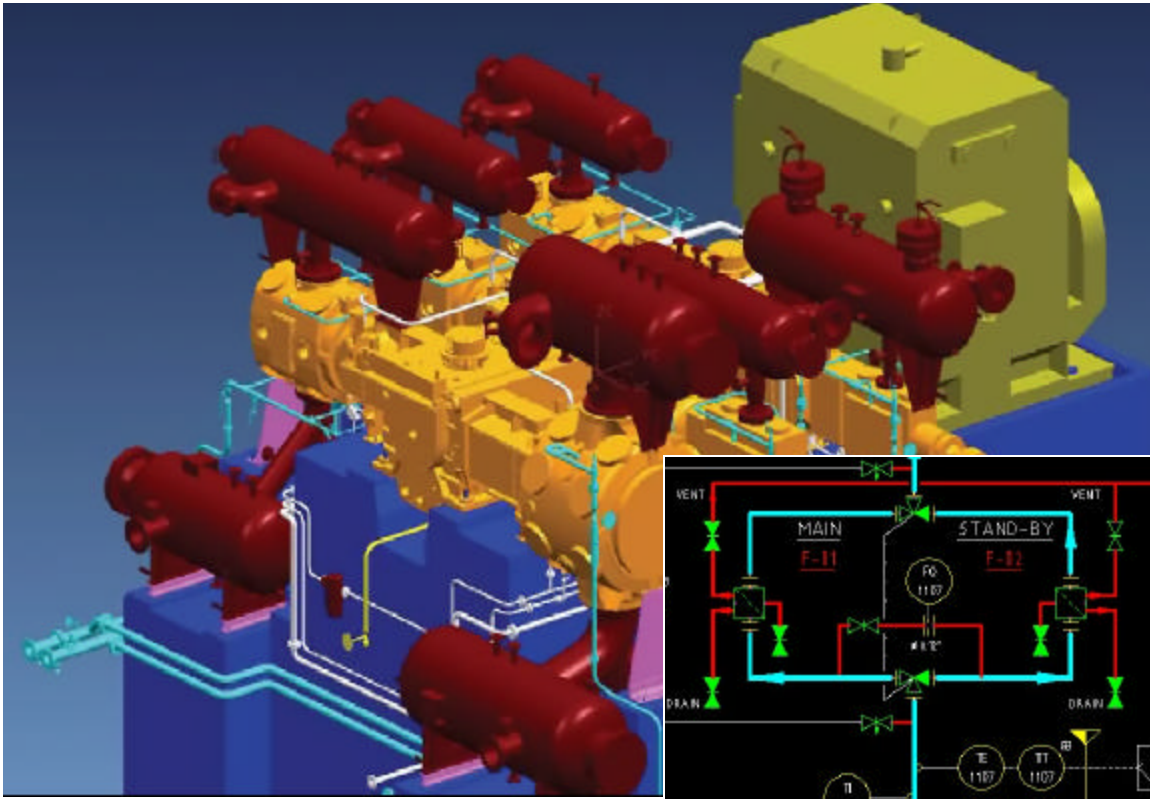


Design Power Success *GE Oil & Gas*



Complete sets of piping and instrumentation diagrams that meet customer required turbine and compressor options are configured in minutes.

Rapid & High Quality P&ID Creation over the Web

General Electric Oil & Gas - Nuovo Pignone (GE-NP) in Florence, Italy, is a leading supplier of compressors and turbines to the oil and gas industry. Each compressor and turbine can be delivered with a large number of custom options. Using conventional methods, the generation of P&IDs and other documents for the associated electric, control, cooling, and hydraulic systems can take 6 weeks or more for each proposal and delivery.

Using Design Power's DrawingWise automated drawing configuration technology GE-NP reduced the turnaround time for complete custom P&ID sets from weeks to minutes providing the following benefits:

- **Faster delivery of proposal and delivery documents**
- **Consistent high quality reduces warranty exposure**
- **Lower cost of sales and engineering**
- **Higher customer satisfaction**



Using Design Power's technology Engineering Manager Stefano Meucci took engineering productivity to a new level.

Partners in Productivity



Design Power
We Put Knowledge to Work

GE Oil & Gas Challenge

GE Oil & Gas - Nuovo Pignone (GE-NP) supplies custom configured compressors and turbines that require a large set of complex drawings and schematics to support sales, manufacturing, installation, and operations.

A single compressor, with all its auxiliary support systems; lubrication, hydraulics, cooling, etc. may require 60 or more detailed P&ID drawings. Each P&ID drawing typically took four hours to create.

To make the P&ID creation more efficient GE-NP's Sandro Migliorini and Stefano Meucci decided to create a system that eliminates unnecessary revisions and more easily accommodates customer requested changes. The resulting "**P&ID Configurator**", built using Design Power's Design⁺⁺ based DrawingWise technology, automates creation of all GE-NP's auxiliary system P&IDs.

SuperDrawing

Within the **P&ID Configurator**, all knowledge needed for creating complete drawing sets for all equipment and control option variations was captured into a set of "SuperDrawings". These SuperDrawings include all the logic and CAD symbols needed for the creation of an entire drawing set.

Whenever new P&ID drawing sets are needed, the P&ID Configurator uses the SuperDrawing to configure, place,

and connect all CAD symbols for the base equipment and customer defined options. Generating a complete drawing set now takes 20 minutes vs. 30 days the old way.

Technology Transfer

Design Power first trained GE-NP engineers to use Design⁺⁺ and DrawingWise. The first SuperDrawings were completed during the training week. Within two years, GE has expanded the **P&ID Configurator** to cover over 80% of all product lines.

Sandro Migliorini, System Design Engineer and GE-NP's key **P&ID Configurator** developer, said "We tried with limited success to create the **P&ID Configurator** with other tools. Design Power's technology made it easy. Design⁺⁺ has no limits. Anything that I can conceive of, and express, can be incorporated into the system."

Faster, Better, Cheaper

Today, over 250 GE-NP Systems, Applications, and Sales engineers in Italy, France, and Mexico use the server-based P&ID Configurator over the Web in their daily work. The advantages of the automated drawing configuration are obvious. Generating and checking a complete drawing set now takes only minutes, significantly reducing engineering effort and cost. Most importantly, the drawings are now consistently correct.

Endorsements

Senior System Engineer Simone Bassani and System Engineer Francesco Bartolini said "We couldn't live without the P&ID Configurator. The system reduces what used to take many hours to a few minutes, provides consistent design, and frees us up to work on more unique control problems."

According to Stefano Meucci, System Engineering Manager: "The P&ID configurator is helping us with newly hired engineers. The embedded GE-NP rules and explanation facility create a safe operating envelope that guides our new staff and reduces their learning curve."

"The biggest value", continues Meucci, "is that we're really addressing the 'cost of failure'. With the **P&ID Configurator** we're realizing savings in hours, cost of sales and, most importantly, the high quality and consistency reduces our warranty exposure."



GE-NP's Sandro Migliorini and Simone Bassani review the system logic and automated drawings produced by the P&ID Configurator.

Design Power, Inc.

For companies that engineer and design products and systems to order, Design Power provides technology and services to automate engineering and design processes.

Customers have reported significant competitive advantages resulting in increased market share and profitability.

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