

**SIA<sup>®</sup>**

**FIRE  
FIGHTING  
SYSTEMS**

## SIA FACTORY AND OFFICE

**Workshop:** 2.700 Sq.mt  
**Offices:** 1.600 Sq.mt

Welding area  
Welding Assembly  
Painting Testing  
Prefabbrication area  
Electrical / Detection assembly & Test area  
Clean Agent and Carbon Dioxide, refilling area



# POWER PLANT CASE HISTORY

## ANSALDO ENERGIA



***MARGHERA LEVANTE BROWNFIELD Project** – Italy (GAS & Steam Turbine in Combined Cycle)*  
***ROSEN 2017 EPCM Project** – Italy (GAS Turbine in Combined Cycle Power Plant)*  
***CCPP PANCEVO Project** – Serbia (GAS Turbines in Combined Cycle Power Plant)*  
***ARVEDI SERVOLA Project** – Italy (GAS & Steam Turbine in Combined Cycle)*  
***COCHRANE THERMOELECTRIC POWER PLANT Project** – Chile (Steam Turbines for Thermoelectric Plant)*  
***ISAB GT1 NG Fuel Conversion Project** – Italy (New Skid Gas & Filtering and Metering Station)*  
***FLEXIBILITY SPARANISE Project** – Italy (New Filtering and Metering Station for Auxiliary Boiler)*

## EDISON

***MARGHERA LEVANTE BROWNFIELD Project** – Italy (GAS & Steam Turbine in Combined Cycle)*  
***VENINA REVAMPING Project** – Italy (Hydro Power Generating Plant)*



## GENERAL ELECTRIC

***KIRIKKALE Project** – Turkey (GAS Turbines for Natural GAS Combined Power Plant)*  
***AT-BASHI HHP Rehabilitation Project** – Kyrgyz Republic (Hydro Power Generating Plant)*

## ALSTOM POWER

***KELAR THERMAL POWER STATIONS Project** – Chile (GAS Turbines for Combined Power Plant)*  
***AL ANBAR Project** - Iraq (GAS Turbines for Combined Power Plant)*



## TECHINT

***Al Shabab Power Project Phase II** – Egypt (Converting Existing Simple Cycle to Combined)*  
***West Damietta Power Project Phase II** – Egypt (Converting Existing Simple Cycle to Combined)*

## SOLAR TURBINES

***MARINER / GRESMALT / VENATOR / TIVOLI / CASTELVETRO Projects** – Italy (GAS Turbine)*  
***LSHM Project** – China (3 x GAS Turbine)*  
***GENSER GHANA Project** – Ghana (4 x GAS Turbine)*  
***PNG Project** – Papua Nuova Guinea (4 x GAS Turbine)*



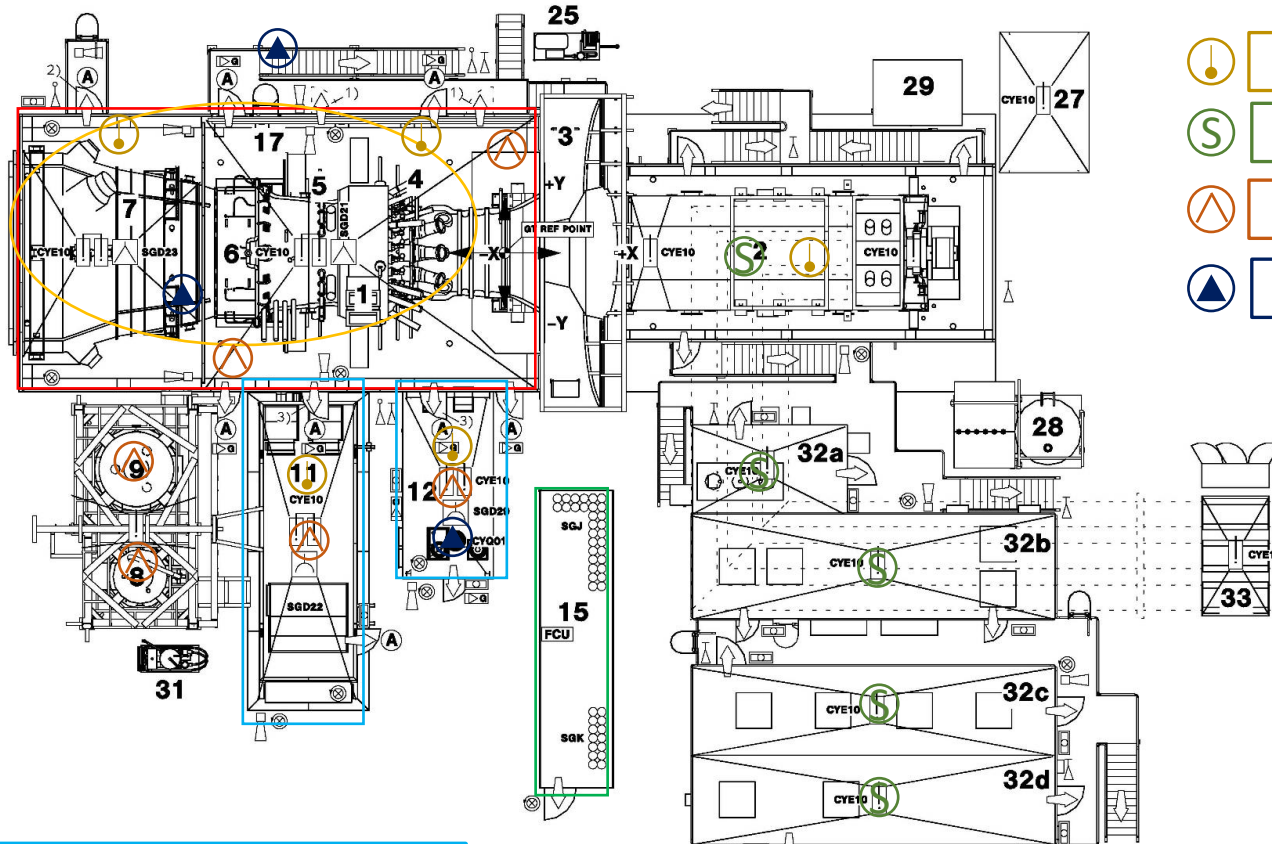
# POWER PLANT CASE HISTORY

|                                       | CO2                        | Water Mist | Iner Gas | Water Spray | Preaction | Sprinkler | Smoke Point Type             | Smoke Sampling Type | Heat Point Type | Heat (LHD) | Flame | GAS Point Type | GAS Open Path | GAS Sampling Type | Audio / Visual Alarm | MAC | F&G Panel           | Extinguishers | Hydrants and Accessories | Remote Controlled Water / Foam Monitors |
|---------------------------------------|----------------------------|------------|----------|-------------|-----------|-----------|------------------------------|---------------------|-----------------|------------|-------|----------------|---------------|-------------------|----------------------|-----|---------------------|---------------|--------------------------|---|
| <i>Project</i>                        | <i>Automatic FF System</i> |            |          |             |           |           | <i>Fire &amp; GAS System</i> |                     |                 |            |       |                |               |                   |                      |     | <i>FF Equipment</i> |               |                          |   |
| Marghera Levante Brownfield (Ansaldo) | ✓                          |            | ✓        | ✓           | ✓         | ✓         | ✓                            | ✓                   | ✓               | ✓          | ✓     | ✓              | ✓             |                   | ✓                    | ✓   | ✓                   |               |                          |   |
| Rosen 2017 EPCM                       | ✓                          |            | ✓        | ✓           |           |           | ✓                            |                     | ✓               |            | ✓     | ✓              |               |                   | ✓                    | ✓   | ✓                   | ✓             |                          |   |
| CCPP Pancevo                          | ✓                          |            |          | ✓           |           |           | ✓                            |                     | ✓               |            | ✓     | ✓              |               |                   | ✓                    | ✓   | ✓                   | ✓             |                          |   |
| Arvedi Servola                        | ✓                          |            |          | ✓           |           |           | ✓                            |                     | ✓               |            | ✓     | ✓              |               |                   | ✓                    | ✓   | ✓                   | ✓             |                          |   |
| Cochrane Thermoelectric Plant         | ✓                          |            |          | ✓           | ✓         | ✓         | ✓                            |                     | ✓               |            | ✓     | ✓              |               |                   | ✓                    | ✓   | ✓                   | ✓             | ✓                        |   |
| ISAB GT 1                             | ✓                          |            |          |             |           |           | ✓                            |                     | ✓               |            | ✓     | ✓              |               |                   | ✓                    | ✓   | ✓                   | ✓             |                          |   |
| Flexibility Sparanise                 | ✓                          |            |          | ✓           |           |           | ✓                            |                     | ✓               |            | ✓     | ✓              |               |                   | ✓                    | ✓   | ✓                   | ✓             |                          |   |
| Marghera Levante Brownfield (Edison)  |                            |            | ✓        | ✓           | ✓         | ✓         | ✓                            | ✓                   | ✓               | ✓          | ✓     | ✓              | ✓             |                   | ✓                    | ✓   | ✓                   | ✓             | ✓                        | ✓                                       |
| Venina Revamping                      | ✓                          |            |          | ✓           |           |           | ✓                            | ✓                   | ✓               |            | ✓     | ✓              |               |                   | ✓                    | ✓   | ✓                   | ✓             | ✓                        | ✓                                       |
| Kirikkale                             | ✓                          |            | ✓        | ✓           |           |           | ✓                            |                     | ✓               |            | ✓     | ✓              |               |                   | ✓                    | ✓   | ✓                   | ✓             | ✓                        | ✓                                       |
| AT- BASHI HHP                         |                            |            |          | ✓           |           |           |                              |                     |                 | ✓          |       |                |               |                   | ✓                    | ✓   | ✓                   |               |                          |   |
| Kelar Thermal Plant                   | ✓                          | ✓          | ✓        | ✓           |           |           | ✓                            |                     | ✓               |            | ✓     | ✓              |               | ✓                 | ✓                    | ✓   | ✓                   | ✓             | ✓                        | ✓                                       |
| Al Anbar                              | ✓                          |            |          | ✓           |           |           | ✓                            |                     | ✓               |            | ✓     | ✓              |               | ✓                 | ✓                    | ✓   | ✓                   | ✓             | ✓                        | ✓                                       |
| Al Shabab                             | ✓                          |            |          | ✓           | ✓         | ✓         |                              |                     |                 |            |       |                |               |                   |                      |     |                     |               |                          |   |
| West Damietta                         | ✓                          |            |          | ✓           | ✓         | ✓         |                              |                     |                 |            |       |                |               |                   |                      |     |                     |               |                          |   |
| Solar Turbines Varius Projects        | ✓                          |            |          |             |           |           | ✓                            |                     | ✓               |            | ✓     | ✓              |               |                   | ✓                    | ✓   | ✓                   |               |                          |   |

# TYPICAL FIRE PROTECTION LAYOUT

**CO2 System – Local Application**  
*Exhaust end Bearing Area*

**CO2 System – Primary & Extended Discharge**  
*Thermal Block Area*

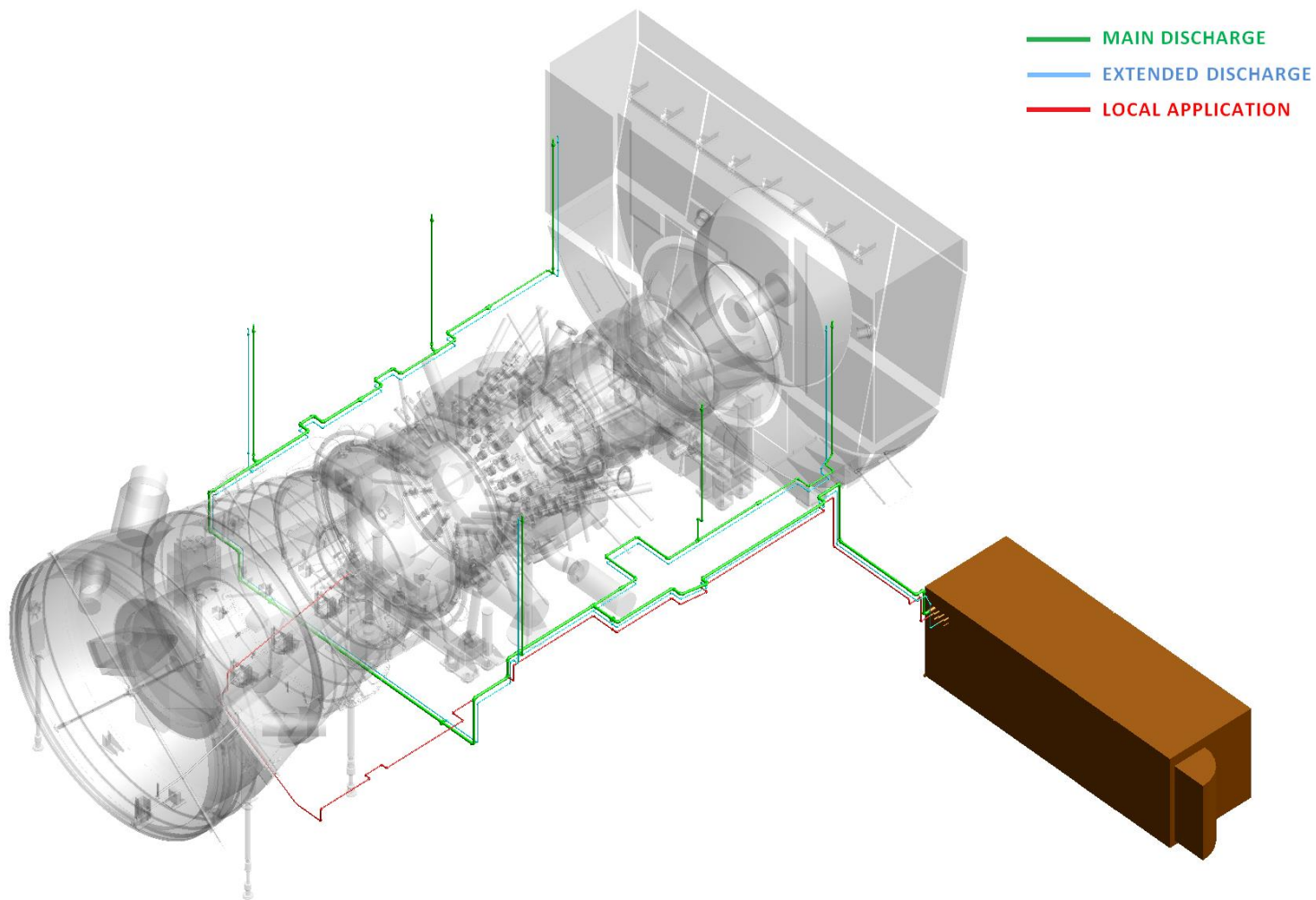


**Inert GAS – IG 55**  
*Auxiliary and Fuel Oil Module*

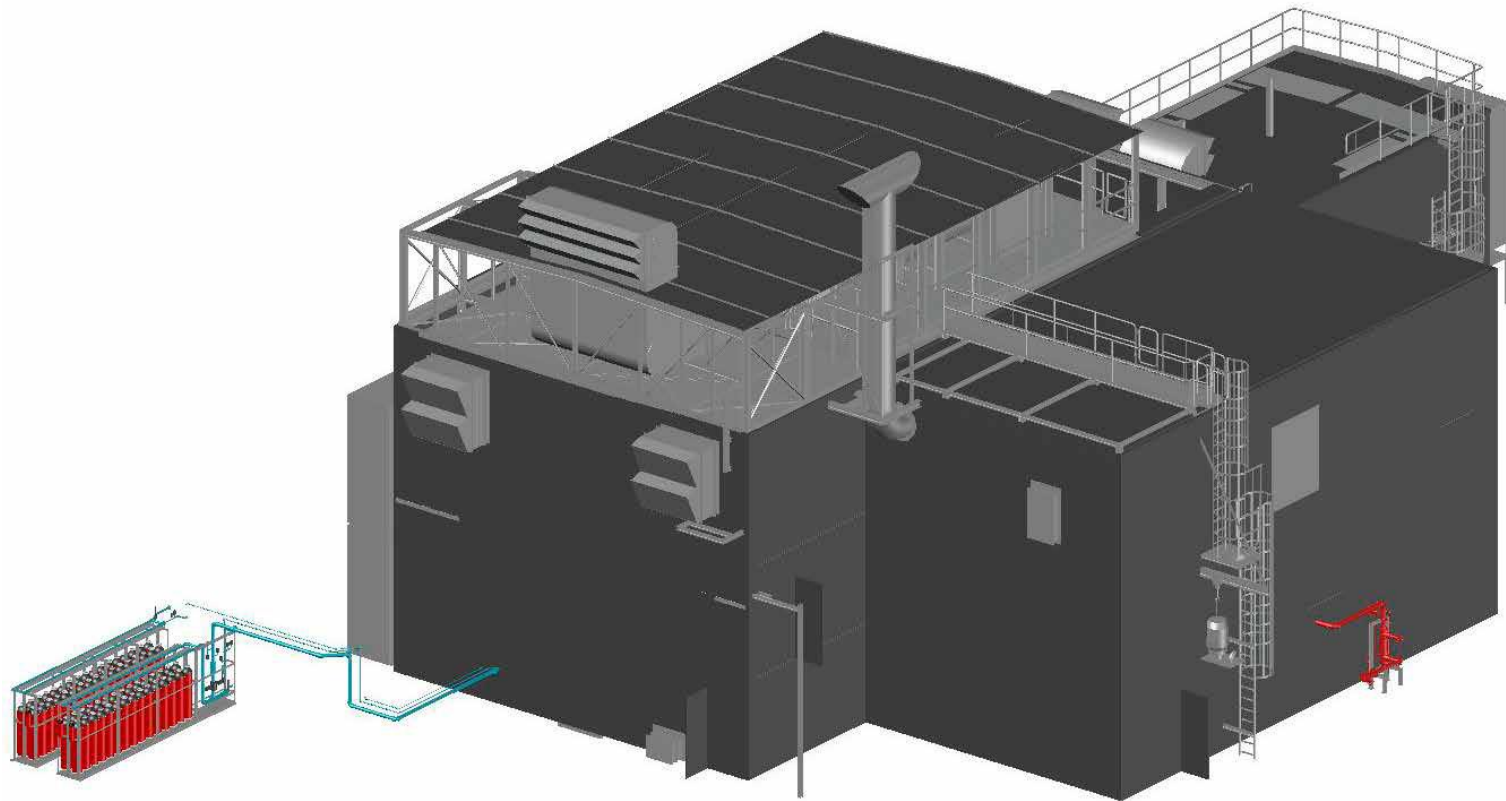
**FF Container**  
*CO2 System, Inert Gas System - IG 55, F&G PLC Control Panel*



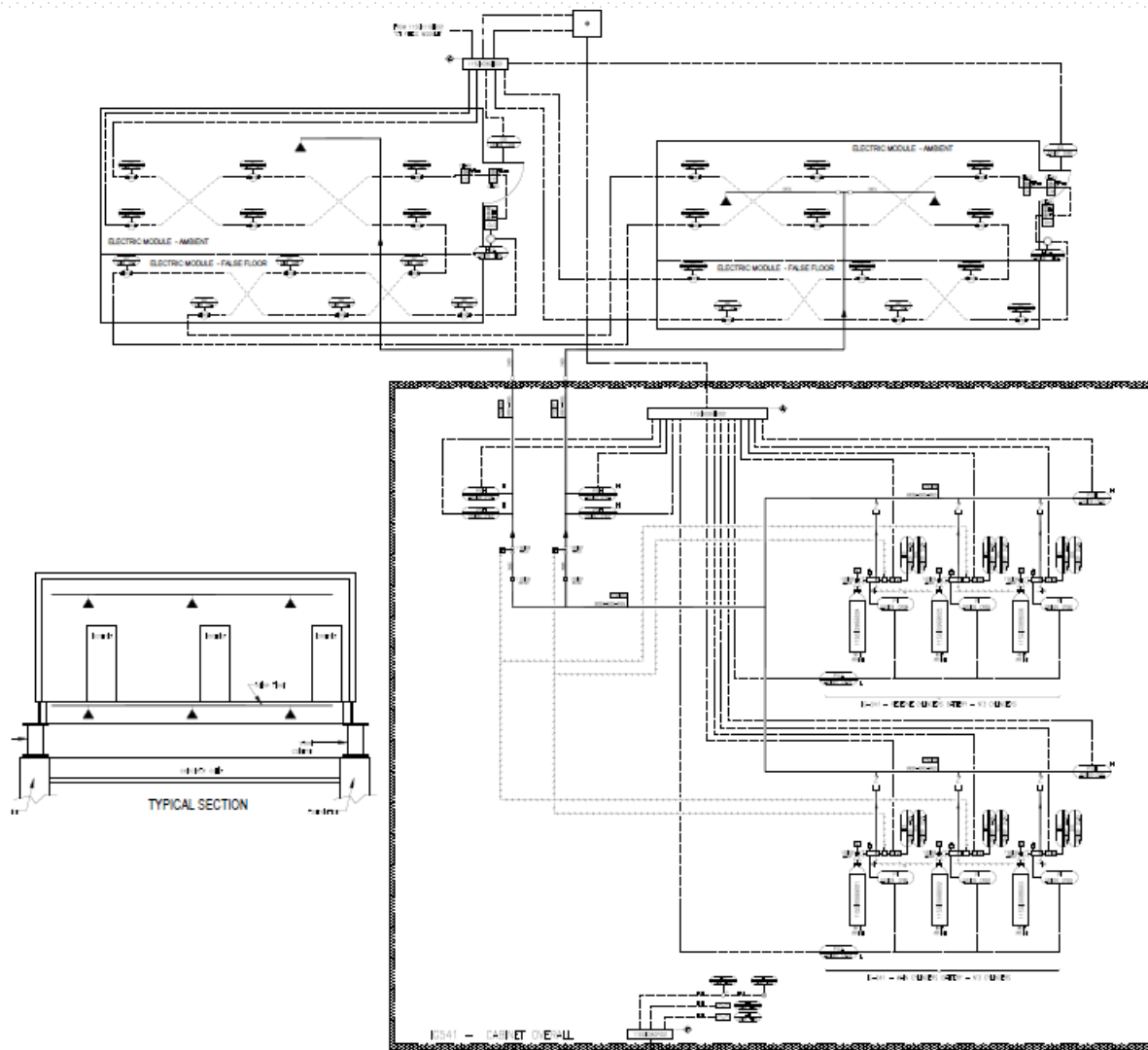
## TYPICAL CO2 SYSTEM



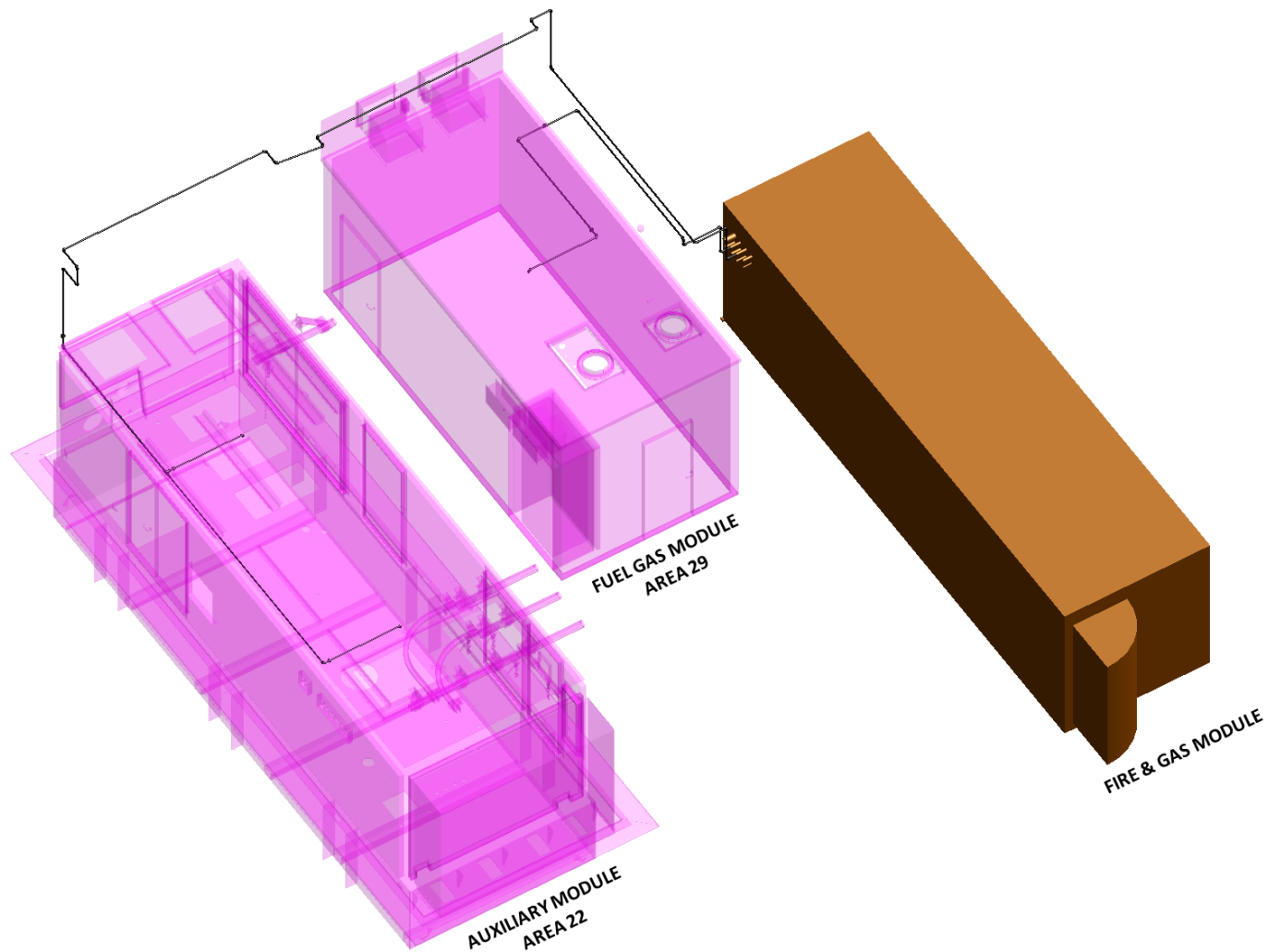
## TYPICAL CO2 SYSTEM



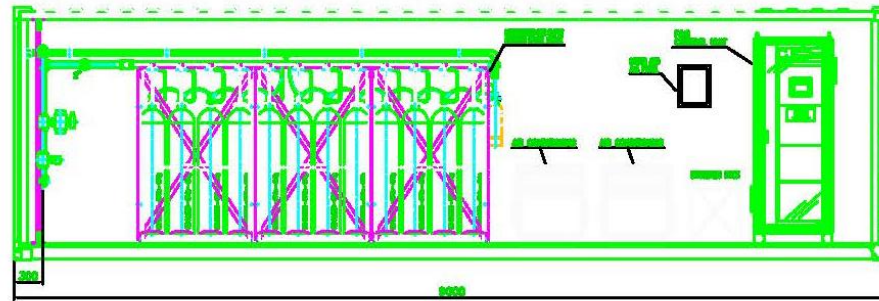
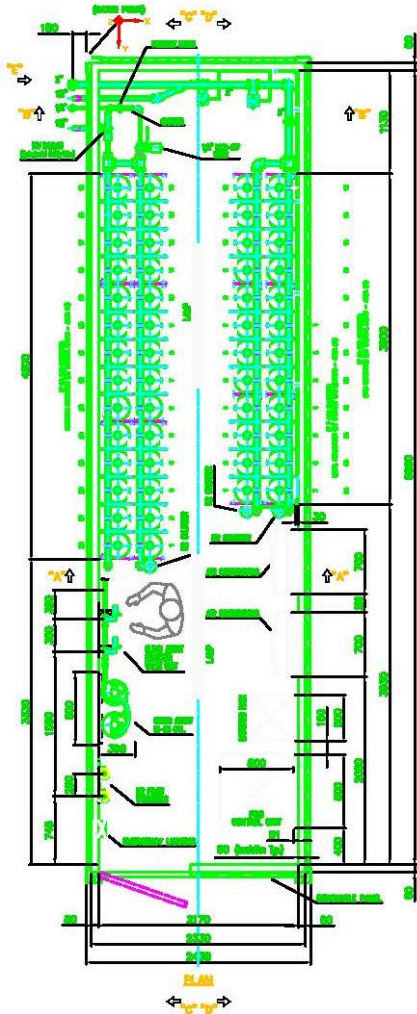
# TYPICAL INERT GAS SYSTEM



## TYPICAL INERT GAS SYSTEM

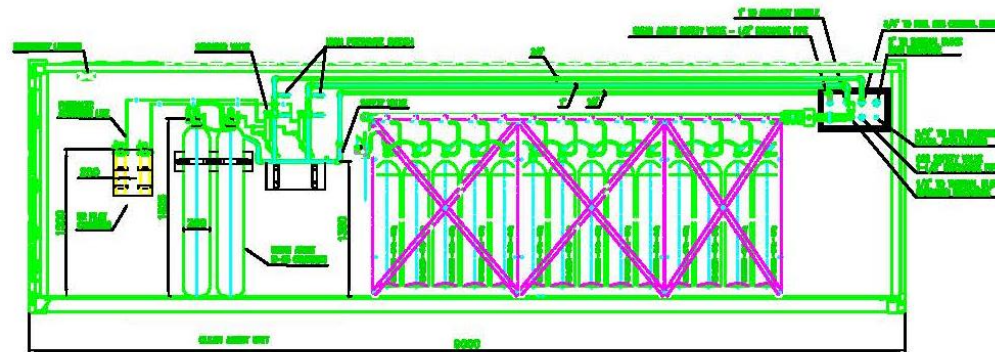


# PREFABBRICATE FF MODULE



000 System 1  
 000 System 2  
 000 System 3  
 000 System 4  
 000 System 5  
 000 System 6  
 000 System 7  
 000 System 8  
 000 System 9  
 000 System 10

SECTION 'A-A'



SECTION 'B-B'

## PREFABBRICATE FF MODULE



## PREFABBRICATE FF MODULE



## SIA-5319 F&G CONTROL PANEL

### SIA-5319 Fire Alarm & Extinguishing Panel Main Features



Pending



- SIA-5319 can be totally set up and can be programmed for detection and fire extinguishing.
- A redundant CPU (master-slave) guarantees the supervision of the system in any critical condition without status modification or system arrest.
- Hot swap backup of all cards
- Redundancy of card, Power Supply and Racks available
- The Control Panel is manufactured according to EN-54-2, EN54-4 Standards
- Comply with EN12094-1 for Control and Actuation of Gaseous Extinguishing Systems
- Software and Hardware designed according IEC61508

## SIA-5319 F&G CONTROL PANEL

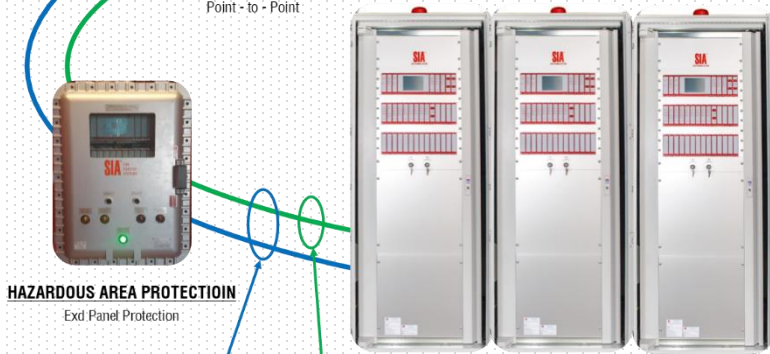
### SIA-5319 Fire Alarm & Extinguishing Networks

Up to 4 Modbus Output over several physical media to connect PLC, HMI, SCADA, MONITORING SYSTEM DEVICES

Modular I/O Cards

- ⇒ Digital Input Supervised – 6 channels each Card
- ⇒ Digital Output Supervised – 6 channels each Card
- ⇒ Analogue Inputs – GAS, Flame or any devices working at 4-20mA - 2 channels each card
- ⇒ Releasing Applications – CO2, Clean Agent, Foam, Water Mist, ...
- ⇒ Relay Module – 6 channel for Card
- ⇒ Lamp Driver Module

**CONVENTIONAL SYSTEM**  
Point - to - Point



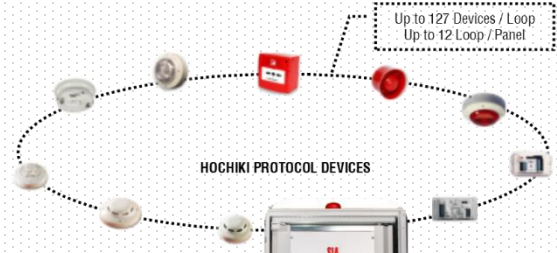
**HAZARDOUS AREA PROTECTION**  
Exd Panel Protection

**LARGE SIZE SYSTEMS**  
Multiple Modular Carpentry Assembled

Networked Panels with up to 32 slaves and a Master Panel in a redundant ring or multidrop connection

Networked Panels with up to 32 slaves and a Master Panel in a single ring or multidrop connection

Network can be also realized with n°2 Master Panels, able to receive information from all devices without any configuration



Up to 127 Devices / Loop  
Up to 12 Loop / Panel

**HOCHIKI PROTOCOL DEVICES**

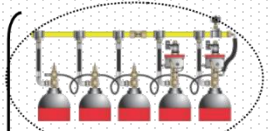
Modbus Output  
Redundancy Configuration

**ADDRESSABLE SYSTEM**  
Hochiki Protocol (ESP)

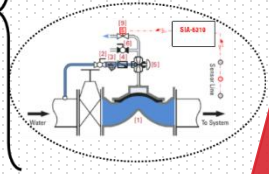


**SMALL SYSTEMS**  
Panel Dimension from 600 x 600 x 250 mm  
Up to 1.200 x 800 x 400 mm

Releasing Applications



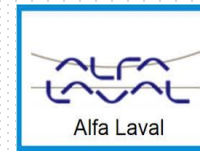
**MID SYZE SYSTEMS**  
Panel Dimension Modular Carpentry 2.100 x 800 x 800 mm



# OUR CUSTOMERS



A Caterpillar Company



## **SIA STRENGTHS**

**System Integrator : Taylor made  
Project management  
Quality with a dynamic organization  
Workshop/Construction /Assembly EPC**