AiFill Control System

Introduction:

The **AiFill** Control System has been developed over the past 20 years by our experienced Packaged Gases / Process Engineers who have over 100 years of combined experience within the Packaged Gases / Process industry sectors.

AiFill has been adopted by all tier 1 gas producers and is successfully installed in over 50 plants throughout the World, including; Australia, Asia, Middle East, Africa and Europe.

AiFill is an integral element of all of our automatic, fully integrated cylinder filling modules

Key features

- Modular building block construction (sequence builder) – pre-coded
- Cost effective for CAPEX & OPEX
- Significant reduction in commissioning time
- Multi language
- Remote (secure) global support
- Highly flexible to cater all needs
- Based upon Siemens S7-1500 & 1200 PLC's
- Programmed using Siemens TIA software
- Siemens; reliable, safe and available worldwide

Summary of Key attributes:

- Plant view – Entire plant on one screen or individual modules
- Recipe driven – Generated / modified in seconds without the need for software engineers
- Sequence builder - Generated / modified in seconds without the need for software engineers
- Filling technique flexibility; Pressure temperature, Mass Flow, Gravimetric
- Supply module(s) flexibility
- Filling Module(s) flexibility
- Analysis system interface
- Reports and Records – Interface with client operating system
- Access control – operation, function, management.
- Interaction / interface with Cold Fill bypass module
- Interaction / interface with our integrated or standalone vacuum systems

For further details please contact Ian Davies at idavies@igph.net or www.igph.net

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AiFill Control System

- Shared resources can be queued
- Recipes can be queued
- Each fill step is trended for later examination
- Auto fill certificate generation – client requirements specific
- Maintenance counter; Valve cycles, buffer cylinder pressure cycles, pump run hours
- Add on RFID / Bar code reader system
- Graphical KPI reporting

Key benefits:

- Standard modular package;
    - Pre-loaded and tested prior to despatch - easy, fast, cost effective commissioning
    - Hardware based on Siemens S7 PLC's – reliable, safe and globally available
    - Integrated Recipe and Sequence builder enables clients to change / amend themselves – no need for a software expert
- Flexible;
    - Easy to change and add new filling recipes & sequences
    - Multi language for International use
    - Interface with client operating system – ERP, SAP, analysis systems etc
- Remote support;
    - Secure, easy and fast

Modules elements:

- Plant view;
    - Total P&ID view
    - RYG coding
    - Fast and easy fault finding
    - Flexible and pre select zoom feature
    - Trending function
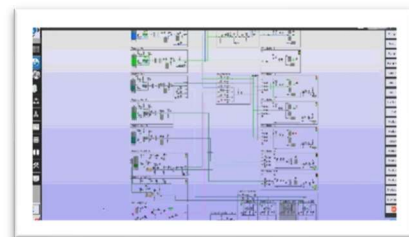
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- Recipes;
  - Unlimited
  - Fast and easy to create / amend (by client)
  - Pre-installed sequences and / or client own
  - Module specific
  - Change tracking facility

- Supply Modules;
  - Fast and easy to add new / additional
  - Pumps, compressors or bundles / cylinders
  - Caters for speed options; VSD, Dual, Mono
  - Line Control (temperature / pressure / flow)
  - Fast and easy fault finding

- Filling Modules;
  - Fast and easy to add new / additional
  - Guides operator through process steps / requirements
  - Provides status of sequence
  - Graphical view
  - Progress bars – pressure / temperature

- Analysis Module;
  - Links to fill record
  - Recipe driven
  - User configuration calibration
  - Batch / line analysis

- Reports & Records;
  - Standard integrated record – Printable / Exportable
  - Search / Filter facility
  - Fault finding identification
  - Batch reports
  - Analysis reports
  - Maintenance reports and records
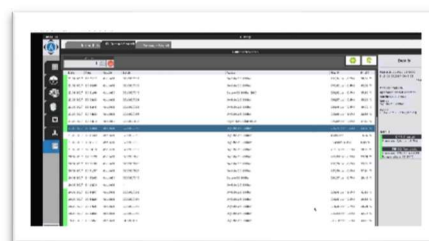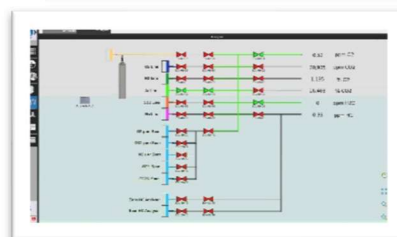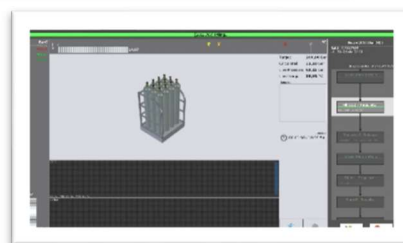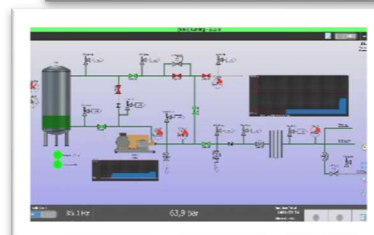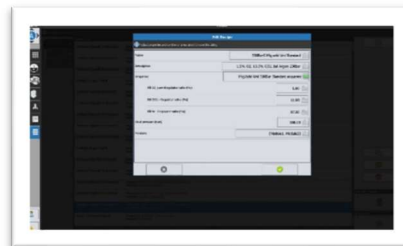
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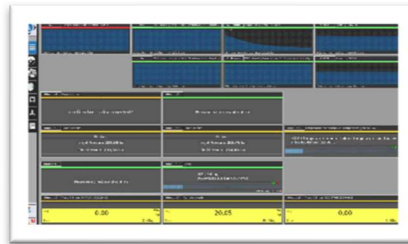

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- Access control;
    - Multiple logins
    - Page access by login
    - Function access by login – operator, supervisor, Manager
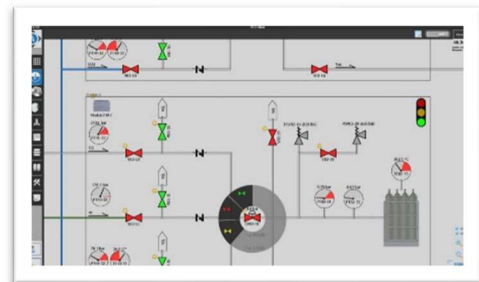   - Auto language identification

- Remote support;
    - Secure VPN
    - Client security policy
    - Changes log
    - ERP/MES Interface
    - Client CMS

- **Never standing still…..development:**
    - Remote factory testing (FAT)
    - Remote commissioning / training
    - SPC - integration
    - Centralised recipe management
    - Unmanned filling
    - Production planning
    - Auto cylinder movement
    - Auto cylinder storage

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