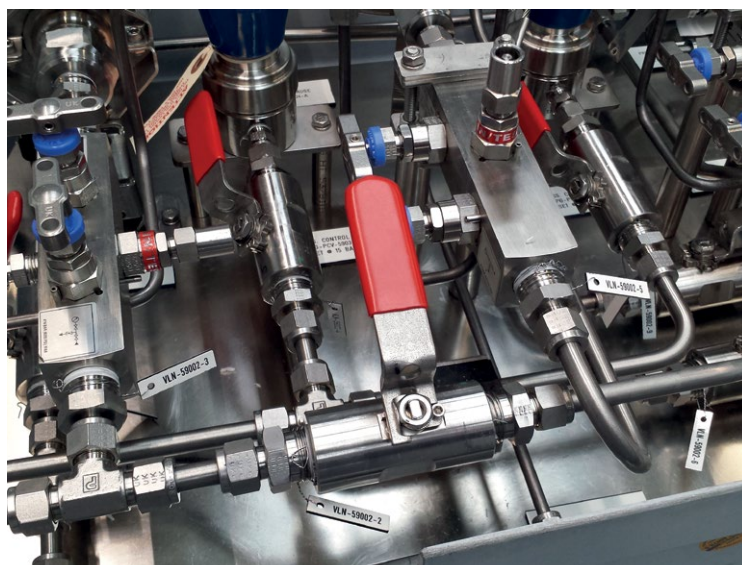


## Control Systems



Nitrogen Pressure Reduction System

## Product Definition

**The aim of a control system is to manage, command, direct or regulate the behavior of other systems or devices. In the oil and gas industry, control system equipment is used for controlling other equipment, regulating flows or taking samples.**

## Product Description

### Actuator Controls

Frames is a valve automation center specialized in custom design and fabrication of valve automation solutions for the oil and gas industry. We have successfully completed many projects with many designs, for various applications and a wide variety of specific project requirements.

In order to assemble a customized solution tailored to your specific needs, Frames assesses your safety requirements (process control, emergency or protection), functional needs (fail open, fail close or stay put) and the actuated valve designation. We combine these parameters with your installation requirements into a complete, engineered package on a control panel or within a cabinet.

We can include additional automation requirements for the actuated valve, such as SIL, closed loop, fire fuses and backup bottles. In addition, Partial Stroke Testing can be included to check the function of the safe position of valves and to prevent unexpected operational failures of the valve/actuator package. Please refer to our Valve Automation (VAC) leaflet for more information.

### Flow Controls

Flow control panels are primarily used to regulate the flow of gasses, for example in nitrogen blanketing systems. These systems are connected to a gas source and control both pressure and flow up to the outlet in order to meet system demands.

### Sample Systems

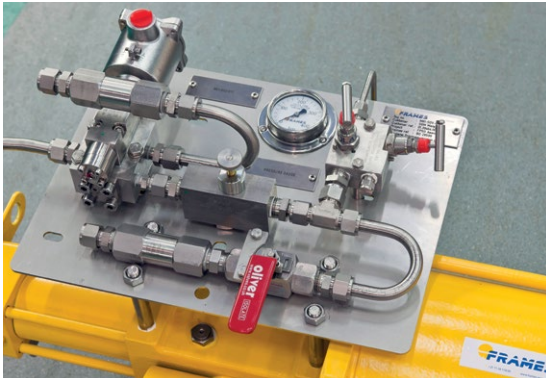
Sample systems are used to take samples from production or other fluids for analysis in a laboratory. Our units allow sample collection from a wide range of applications, from high to low pressures and at different temperature ranges with either glass sample bottles or stainless sample bombs can be included. Many of the options can be modified to ensure operator safety such as heat exchangers for cooling the samples, automation of the valves and insulation.

## Control Systems

### Process Description

Requirements for control systems are highly dependent on the application. Furthermore, every user has specific requirements and standards. Frames is committed to identifying the appropriate technologies required. Based on these requirements, we build cost-effective products that meet your specific needs.

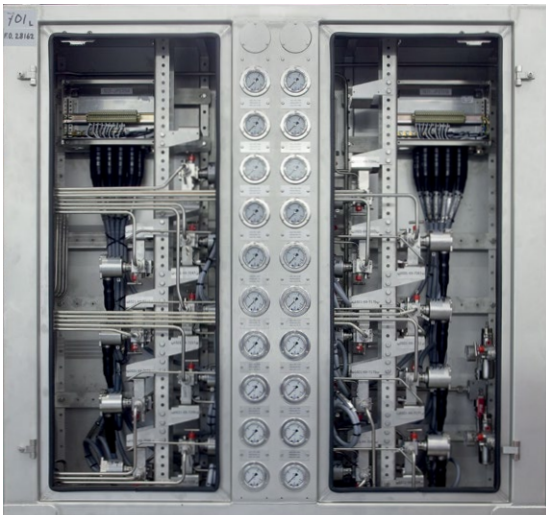
In addition to delivering functionally sound control systems, our team of engineering experts will incorporate efficient weight and space-saving options. A flexible approach allows systems to be built onto a mounting plate or fitted into a protected cabinet. At Frames, we also offer fireproofing for the controls, with or without the actuated valve package, either by wrapping the units in fireproof blankets, applying special coatings, or fitting a custom-built external skeleton of fireproof material.



Hydraulic Control Panel



Control Panel for Natural Gas Driven Actuators



Pneumatic Control Cabinet

# Control Systems

## Project Management

At Frames, we understand that success depends on sharp project management. As our client, we are driven to supporting your business, with our dedicated project team always on hand for one-on-one contact, providing you with the best possible service.

From concept through to design, production, testing and delivery, our project team will know your operating environment, and will use the latest technology to precisely meet your needs.

We are solution orientated, understand your industry and always use strict document control and professional planning to exercise tight process control and meet all delivery deadlines. Our global office network, international supply chain and partnerships with leading vendors mean we are always able to supply the best systems and meet all of the local requirements and regulations.

## Technical Details

- Panels or cabinets
- SIL and/or HIPPS requirements
- Partial stroking facilities
- Tubing and wetted parts in SS316(L), SS317, 6Mo, Alloy 825, Duplex or other exotic materials
- Double-ferrule fittings in low and medium pressure, cone-and-thread fittings for medium and high-pressure connections
- Borosilicate glass containers or metallic sample cylinders
- Instruments from reputable brands
- Fireproofing
- Integrated testing of the final assembly, site installation, commissioning, and site acceptance testing

## Added Value Frames

- Frames is a valve automation center specialized in custom design and fabrication of valve automation solutions for the oil and gas industry
- Our team looks beyond the package at the overall process requirements, including predictive maintenance savings on operational expenses
- Optimization with associated packages to ensure best investment
- Flexible approach, assuring safe, reliable but economical solution with low operational cost
- Strict focus on operator and environmental safety

## References

- Wijngaarden – N.V. Nederlandse Gasunie, the Netherlands
- K8-FA-3 – Nederlandse Aardolie Maatschappij B.V., the Netherlands
- Stones FPSO – Single Buoy Moorings Inc., Monaco / Shell International Expl. & Prod. Inc., USA
- Prelude Floating LNG – Single Buoy Moorings Inc., Monaco / Shell Australia Limited, Australia
- Bergermeer UGS – TAQA Energy B.V., the Netherlands

## Contact

+ 31 172 461600  
flowcontrolsafeguarding@frames-group.com

# Frames Family Tree

