

FLANGEPRO

Flange Management Systems
Integrity Assurance



GOAL 100% CONTAINMENT

DRIVING SAFETY AND RELIABILITY

SPX

› Bolting Systems

Flange Management Systems
all over the world; driving safety and reliability.



› **Bolting Systems®**

PRODUCTS

All SPX Bolting Systems products are designed and developed using the latest computer aided technology which ensures we remain at the forefront of product development.

- Torque wrenches
- Pumps
- Tools
- Tensioners
- Nut Splitters
- Hydraulic Spreaders

RENTAL / SERVICES

SPX Bolting Systems offers full service rental capabilities from our Service Centers located strategically around the globe.

- 24/7 support
- Inspect, test and update products on a regular basis
- Non-destructive testing
- Calibration service
- Safety Support

TRAINING

We recognize that training is a vital ingredient to any successful relationship and an initial investment in training will repay itself many times over to the end-user

- Joint Integrity Training
- IOSH Working Safely
- IOSH Managing Safely
- Manual Handling
- First Aid Training

SOFTWARE

SPX Integrity Software provides world class solutions that offer a systemized and controlled approach to process integrity across the asset lifecycle.

- Adviser, bolt load calculator
- Flange Pro



SPX is a member of:



SPX is an approved training provider for:





Why is flange integrity so important?

Flange Management Systems can help address elements of SEMS, SEMS II, and RP 75, such as:

- Maintaining key information on flanged joints, leak testing, and controlled bolting bolt load calculations and methods.
- Documentation of operating procedures for controlled bolting processes.
- Help maintain mechanical integrity of piping assets.

Flange Management Systems can help address KP4 requirements:

- Help track flange records for ageing assets and maintain a documented record of their condition.

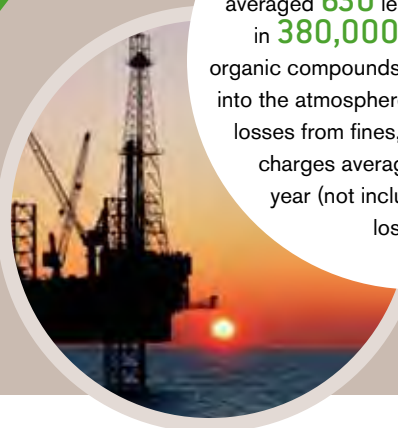
Flange Management Systems provides a system to help manage hydrocarbon-containing equipment from experiencing a hydrocarbon release.



FLANGE INTEGRITY MANAGEMENT SYSTEMS



A **3 year** study on the impact of leaking pipe flanges showed a major refinery averaged **630** leaks per year resulting in **380,000** pounds of volatile organic compounds (VOC) being released into the atmosphere. Estimated monetary losses from fines, materials, and labor charges averaged **\$440K** per year (not including production losses)*.



What's it worth to help prevent a catastrophic event?

- The Deepwater Horizon accident resulted in the loss of eleven lives and the overall cost was several billion dollars.
 - The Piper Alpha accident cost the loss of 167 lives and changed the face of the North Sea O&G industry entirely.
 - A high consequence event that occurred in a California refinery which resulted when a 4inch 300# gasket failed due to improper tightening. The refinery reported that consequential damages due to production loss, fines, and rework were in excess of \$500M*.
- (* Source: 2014 AFPM Reliability & Maintenance Conference)

Our Flange Management Systems helps to:

- Mitigate & Avoid high consequence events
- Extend the life of an asset
- Maintain expected performance
- Manage Risk

INTEGRITY SOFTWARE

FLANGEPRO offers flexible systemized and controlled approach to integrity for any critical system that requires extensive governance, effective record keeping, and a program of regular safety inspections, where a major incident would have material, and perhaps effects on life or the environment.



completions workflow
 maintenance FastSearch
 leak test planning
 P&ID isometric drawings real time flange status
 pressure testing small bore tubing
 user defined bolt loads
 project KPI dashboard
 user defined tooling

FLANGEPRO provides a fully featured Flange Management System, maximizing the control of the Flange Register, allowing comprehensive and consistent operation of all flange break, make-up and inspection processes for commissioning, operations and turnarounds / shutdown applications.



A completely flexible solution for all integrity activities on all safety critical plants, safely and efficiently perform any activity or workflow for any type of asset with IMS, **FLANGEPRO** can be used in many different fields, project phases and for



PRE-BID

During this stage, the software provides you:

Efficiency
Simplicity
Reduced errors

- One click access
- Allows user preferred bolt load calculations
- Simplifies tool selections
- Automated process
- Wider variety of calculation methods



PRE-WORK

During this stage, the software provides you:

Improved planning
Better resource utilization
Reduced errors

- Tooling requirements
- Personnel certification
- Enhance scheduling function
- Reduces preparation time dramatically
- Tagging system



nt and equipment, **FLANGEPRO** also provides the control to h complete confidence. Built upon our unique and highly flexible many different service lines and activities, such as:

ON SITE WORK

During this stage, the software helps you:

- Control activity
- Improved productivity
- Reduced errors

- Real time project status
- Dashboard and KPI's
- Automatic completion of paperwork
- Records and documents repository



VISUAL WORKFLOW SATATUS MATCHING ANY TAGGING PROCESS ADOPTED.

SPX

SORT WORDPACKS/ACTIVITIES BY STATUS FOR EASE OF MANAGEMENT.

FULL HISTORY OF WORKFLOW/ ACTIVITIES IS RECORDED AGAINST THE SAFETY CRITICAL CERTIFICATE AND THE ACTIVITY PACK IT IS HELD ON.

COMPLETION HANDOVERS

During this stage, the software provides you:

- Easy data access to records
- Ensures no loss of data
- Mitigates costly lawsuits

- Auto-generation of paperwork
- Automated sign-off of completion forms
- Historical CSV records
- Create handover documentation



PRODUCE WORKFLOW DOCUMENTATION AUTOMATICALLY.

AUTOMATIC PROCEDURE PRODUCTION.

PRODUCT FEATURES



MULTIPLE PROJECTS

A centralized repository to capture, store and visualize multiple project or asset related information.



CLOUD PLATFORM

Internet-based global delivery of integrity systems to support both regional and international project execution and governance.



MARKUP TOOL

This tool combines powerful document editing, markup and collaboration technology and when combined with our intelligent workflow system a comprehensive visualization tool.



ASSET IDENTIFICATION

Rapid operations using barcoding and RFID for identification of physical and paper assets to automate business processes and improve accuracy.



CONFIGURABILITY / FLEXIBILITY

Our software is very flexible and can be extensively customized to mirror your organizational process and procedures.



ISO 27001

Our Data Centers are all ISO 27001 and 9001 accredited and operated at tier 3+ equivalent levels, ensuring you receive the highest standard of service.

Product Features	Personal	Professional	Enterprise
Core Features			
Cloud-based service with full resilience	Standard	Standard	Standard
Adviser Bolt Load Calculation Tool	Standard	Standard	Standard
Flange Management System	Standard	Standard	Standard
Inspection & Leak Test Planning System	Standard	Standard	Standard
Configurable Integrity Management Platform	Standard	Standard	Standard
All Upgrades / Software Maintenance	Standard	Standard	Standard
Easy Data Out Policy	Standard	Standard	Standard
Annual Software Training & Integrity Awareness		Standard	Standard
Priority Access to Technical Assurance Centre		Limited	Standard
Collaboration			
Multi-user collaboration		Standard	Standard
Offline / Desktop Application			Standard
Hardware Integrity Kit Rental	Optional	Optional	Optional
Floating License Option			Optional
Named Users to Floating License Max Ratio		1:1	1:2
Back to Back License Option			1:1
Feature Packs		Optional	Standard
TAR - Project Management Module		Optional	Standard
TAG - Tag production and workflow system		Optional	Standard
MARKUP - Document Markup System		Optional	Standard
LINKSYNC - Integration Middleware		Optional	Standard

Due to ongoing development work the product features may change

Based in Charlotte, North Carolina, SPX is a Fortune 500, multi-industry manufacturing company with operations in more than 35 markets worldwide, approximately \$5 billion in annual revenue and more than 14,000 employees.

SPX's innovative, world-class products and highly-engineered solutions are helping to meet the needs of a constantly developing world and growing global population. You'll find our innovative solutions in everything from dairy plants and power plants to oil and gas pipelines, the power grid and bus fare collection systems. SPX is really everywhere you look. We help our customers around the globe expand and enhance their food and beverage, power and energy and industrial production processes. For example, our processing technologies improve the taste of many of the foods you like to eat, such as yogurt, ketchup and sports drinks. We also manufacture transformers that bring electricity to your home and our cooling towers cool nearly every type of power plant, as well as very large buildings, including the new One World Trade Center in New York City. We manufacture pumps, valves and other fluid handling devices designed to improve food and beverage production and facilitate oil and gas processing, and very large dryers for chemical processing, as well as pharmaceutical and personal care items.

POWER AND ENERGY

SPX helps meet the demand for increased power generation from multiple sources with quality systems and components.



FOOD AND BEVERAGE

SPX provides durable components and solutions to improve process efficiency, reduce waste and more.



INDUSTRIAL

SPX can help companies efficiently transform raw materials into the building blocks of modern society.



> Power Team®

For over 85 years, Power Team high-force tools and equipment are used wherever strong, concentrated force is required.



> Stone®

With over 40 years of hydraulic expertise, Stone provides a wide range of high quality AC and DC Power Units for a variety of markets.



> Rail Systems®

Manufactured in the U.K., SPX Rail Systems provides point operating equipment through the Clamplock brand, as well as level crossing barriers.



> Globe®

Globe heavy duty radial piston air motors feature exceptional range of control valve and output options for a variety of applications.



> Bolting Systems

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