PIPENET
LEADING THE WAY IN FLUID FLOW ANALYSIS

SUNRISE
What is PIPENET?

PIPENET is a powerful software tool for rapid flow analysis of pipe and duct networks. Three modules ensure that, no matter how extensive or complex your network, PIPENET will perform.

Why use PIPENET?

- PIPENET sets the standard – leads the way in flow analysis – the best!
- PIPENET starts at the design phase. It performs pipe sizing and pump selection calculations in the steady state. From there it goes all the way to computing hydraulic loads for pipe stress analysis and support design, through several optional stages depending on exactly what the user requires.
- PIPENET has been in use across the globe for over 25 years, by companies large and small, including many multinationals, in the oil and gas, process, fire protection, ship building, and power generation industries.
- PIPENET is flexible, offers a wide selection of units, user-defined pipe schedules, fittings libraries and pump characteristics.
- PIPENET is constantly being updated and enhanced, putting us at the forefront of pipework and pipeline design technology.
- SUNRISE SYSTEMS is accredited with ISO 9001.

PIPENET – Which Module do I need?

PIPENET has three modules which work independently:

- PIPENET Transient Module is ideal for unsteady flow problems such as ‘water hammer’, ‘steam hammer’, control systems and hydraulic forces for pipe stress analysis.
- PIPENET Spray Sprinkler Module sets the global standard for the design of fire protection systems especially in the oil, gas and process plant industries - deluge, ringmain, sprinkler or foam concentrate systems.
- PIPENET Standard Module is the perfect tool for solving general flow problems with liquids, gases or steam – in pipe and duct networks – cooling water systems, steam distribution systems, HVAC systems.

PIPENET – What support will I get?

PIPENET is supported by a rapid-response team based in the UK, who will talk you through any difficulties you may have. In addition, PIPENET is supported by Authorised Marketing Partners and Training Consultants across the globe. We offer a cost effective maintenance, updates and support programme which will keep you up to date, ensuring that you always have the latest technology at your fingertips.

PIPENET – GUI Highlights

- Colours – component coded according to data/results/user defined rules
- Bird’s eye view, unlimited undo/redo, tool tips, pan & zoom, font sizes
- Isometric/orthogonal schematic grids, automatic creation of ranges with multiple items
- Tabulated data with copy/paste from and to virtually any spreadsheet, global edit, sorting
- Extensive online help, online tutorials, user manuals and training manuals
- Import underlays in .dxf and .emf formats
- Copy/paste of sub-networks to rapidly build up a large system
- Extensive range of output formats including HPGL/2 for plotting
PIPENET Transient Module provides a rapid means of in-house rigorous transient analysis and pinpoints problem areas and potential solutions.

Applications of PIPENET Transient:

- Loading/unloading systems analysis
- Cooling water systems modeling
- Firewater systems surge analysis
- Water injection systems studies
- Subsea and cross country pipelines
- Steam hammer

PIPENET Transient is the perfect tool for modeling networks:

- Pipes – rigorous and short, mile post data
- Valves – operating, surge relief, control, non-return, swing check, regulating, bursting disk, inertial check
- Pumps – simple and turbo
- Tanks – simple, accumulator, surge, receiving vessel
- Vacuum breakers – with or without hysteresis

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● Control systems – pressure, flow, differential pressure sensors, PID control, transfer functions, switches
● Caissons – partially filled pipes
● Specifications – extensive range of boundary conditions
● Hydraulic transient forces – dynamic/total, unbalanced/complex forces

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**PIPENET Spray/Sprinkler Module** is excellent for hydraulic analysis of firewater systems in compliance with NFPA13, NFPA15 and NFPA16 rules. This addresses the hydraulic analysis requirements of virtually all national and international standards. Ideal for the design of systems used in critical applications such as offshore platforms, FPSO's, petrochemical plants, power plants, refineries, ships, and airport hangers.

Applications of **PIPENET Spray/Sprinkler** Module:

- Deluge systems
- Firewater ringmain systems
- Sprinkler systems
- Foam solution systems
- Foam concentrate systems
- Spray mist systems

**PIPENET Spray/Sprinkler** is the ideal modeling tool for:

Pipes, nozzles, fittings, overboard dump valves, nonreturn valves, orifice plates, equipment items.

**PIPENET Spray/Sprinkler** Features:

- Input – isometric or orthogonal schematic input, tabular input including copy and paste from spreadsheets
- Underlay – import of drawings for use as underlays for schematic drawings
- Output – easy, readable output as tables, or display of data and results on the schematic

- Choice of calculation modes – hydraulically most remote nozzle, inlet pressure/flowrate
- Orifice plates – diameter to be calculated or specified
- Multiple pump scenarios
- Multiple fire scenarios
- Block/Break of pipes to simulate closed valves and burst pipes
- Pumps – sizing of pumps or user-defined vendor’s pump curves

**PIPENET Spray/Sprinkler** module is the fire protection professional’s first choice.
**PIPENET Standard Module** is ideal for analysis of general network systems handling liquids, gases and steam, including piping HVAC and ducting systems.

Applications of **PIPENET Standard Module**:

- Cooling water systems
- Steam distribution systems
- Ventilation systems
- Water distribution systems
- Fuel gas systems
- Chilled water systems
- Ventilation systems

**PIPENET Standard Models**:

Pipes, ducts, fittings, pumps, fans, check valves, control valves, nozzles, filters, orifice plates, fixed pressure drops.

**PIPENET Standard Features**:

- Input – isometric or orthogonal schematic input, tabular input including copy and paste from spreadsheets
- Underlay – import of drawings for use as underlays for schematic drawings
- Output – easy, readable output as tables, or display of data and results on the schematic
- Extensive library of fittings and user-defined fittings, using Crane data
- Powerful pipe sizing capability
- Orifice plates – diameter to be calculated or specified
- Multiple pump scenarios
- Block/Break of pipes to simulate closed valves and burst pipes
- Pumps – sizing of pumps or user-defined vendor’s pump curves
- Pipe schedules – extensive built-in and user-defined pipe schedules
- Checking for cavitation, correction for ambient pressure decrease with height, calculation of hydraulic gradients and modeling of leaks

**PIPENET** is the solution in design optimisation and setting standards in safety.