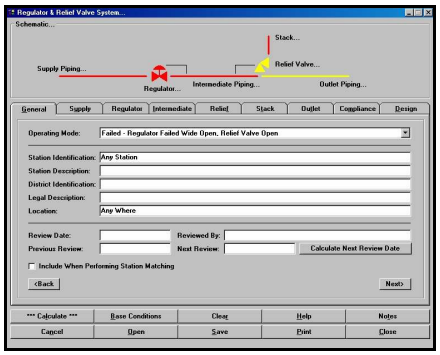
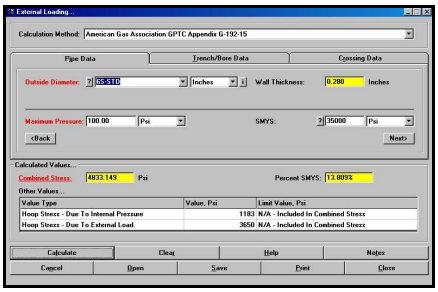
GASCalc 5.0...

Is the latest release of our popular suite of analytical tools. It was specifically developed to aid in the design and operation of natural gas distribution, gathering, transmission, plant, and fuel piping systems. It includes routines for calculating a variety of stress, flow, and pressure values for devices and pipe associated with virtually any piping application that transports or delivers natural gas. Its wide range of features provide the ability to investigate piping problems from the well head to the burner tip. Some of its features include...

Pipe Flow & Pressure Values - More than twenty different industry related pipe flow equations are supported for sizing and calculating pressure loss across pipe and fittings. Also included are routines for calculating blowdown and venting values, purging and clearing values, fill time, pipe volume, and service line sizing.

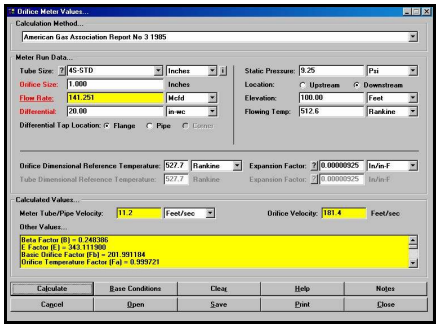
Regulator & Relief Valve Values - Support is provided for calculating pressure and flows through a variety of regulator and relief valve devices. The routines allow analysis of single devices or devices configured in various “station” arrangements. Devices from multiple manufacturers can be compared side-by-side, or in combination in a station configuration. Support is provided for both table and equation based performance data. These routines are perfect for performing annual relief valve capacity checks.





Stress Values - Routines are included for calculating a variety of pipe stress values including bending stress on pipe spans, thermal expansion and contraction, hoop stress, stress caused by roadway and railway crossings, steel and plastic pipe design formulas, total combined stress, and segment MAOP value.

Meter Sizing - Support is provided for calculating pressure and flows through a variety of meter types - including orifice, diaphragm, rotary, turbine, and cone meters. Other measurement related calculation routines are also provided, allowing quick calculation of volumes at different operating pressures, base conditions, or atmospheric pressure conditions.



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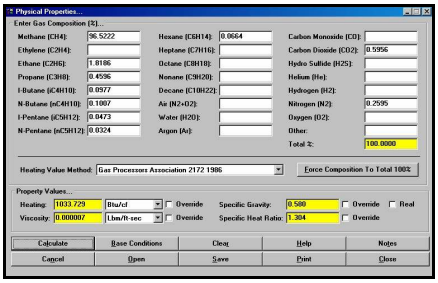
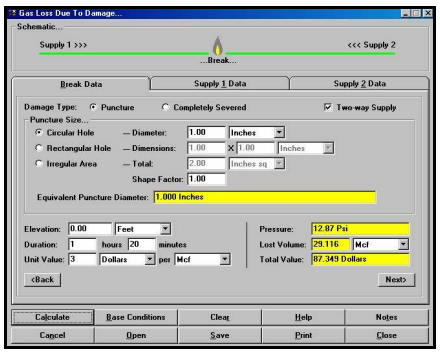
Telephone: (719) 578-9391 ! sales@b3pe.com ! www.b3pe.com



Gas Properties - Support is provided for calculating various physical and thermodynamic properties associated with a gas composition. Routines are included for calculating compressibility, sonic velocity, specific gravity, heating value (calorific value), viscosity, specific heat, entropy, enthalpy, atmospheric pressure, average pressure and temperature, and pressure, temperature, and volume values at varying conditions.



Other, Miscellaneous, & Utility Routines - A number of routines are provided for calculating variety of other, miscellaneous, and utility values. Routines include calculation of velocity, hydraulic diameter, flow limiting devices, compressor values, well flow values, Reynolds Number, container volume, energy and dimensional units conversion, heat loss and gain across devices and piping, and value interpolation and extrapolation. One convenient routine estimates gas loss from a punctured or severed line.

Many of the calculation routines are also available through the GASCalc 5.0 Application Program Interface (API). The API allows access to the supported calculation routines by way of programmatic function calls, allowing the User to create and access the calculation routines through their own or a custom developed user interface. The API is available at additional charge.

Requires Windows XP or newer operating system. Distributed by way of electronic download.

Supported Standards and Guidelines
AGA 3 - Orifice Metering Of Natural Gas And Other Hydrocarbon Fluids
AGA 7 - Measurement Of Gas By Turbine Meters
AGA 8 - Compressibility Factors of Natural Gas and Other Hydrocarbon Gases
AGA 10 - Speed Of Sound In Natural Gas, Thermodynamic Properties
AGA GPTC - Guide For Gas Transmission and Distribution Piping Systems
AGA NX19 - Manual For Determination of Supercompressibility Factors For Natural Gas
API 15LE - Specification For Polyethylene Line Pipe
API 520 - Sizing Selection and Installation of Pressure-Relieving Devices in Refineries
API 1102 - Steel Pipelines Crossing Railroads and Highways
ASME B31.8 - Gas Transmission And Distribution Piping Systems
GERG - Compressibility Factor Calculation For Natural Gas
GPA 2145 - Table of Physical Constants
GPA 2172 - Calculation of Gross Heating Value (etc) for Natural Gas Mixtures from Compositional Analysis
IAPMO - Uniform Mechanical and Plumbing codes
ICC - International Mechanical Code
IGE/TD/3 - Recommendations On Transmission And Distribution Practice
ISA S75.01 - Flow Equations for Sizing Control Valves
ISO 5167 - Measurement of Fluid Flows By Means of Pressure Differential Devices
PPI - Polyethylene Pipe Handbook
US DOT 192 - Pipeline Safety Regulations
And many other industry, association, and manufacturer equations, methods, and recommendations

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