

GAS COMPRESSOR

- For any type of compressor, computes the power required, temperature rise, and cooling required.
- Any gas or gas mixture.
- Calculates the Mol Wt for any gas mixture.

GAS TURBINE

- Calculates the net power produced, efficiency and fuel required for any theoretical gas turbine.
- Uses actual air enthalpy values.

BOILER CHIMNEY

- Calculates the draft, friction loss, and exit loss for any chimney.
- Actual friction factors for any type of interior surface.
- Choice of various typical gases or actual composition may be inputted.

NOZZLE & ORIFICE FLOW

- Calculates the flow of steam or any gas through a flow-limiting orifice or nozzle.
- Can also calculate the size of the orifice for a given flow.
- Choked and non-choked flow automatically calculated.

FLASH TANK HEAT RECOVERY

- Calculates the amount of flash steam and condensate produced in a boiler blowdown flash tank.
- The economic results of using the heat recovered is calculated.

CENTRIFUGAL PUMP

- Calculates suction head, discharge head, power, NPSH, & suction specific speed.
- Warns of problems.
- Helps to write good specifications.

FAN

- Calculates the power for air or any gas mixture.
- Shows results of changing temperature & speed on flow, head, power & sound level.
- Helps to write good specifications.

PSYCHROMETRICS

- Calculates the properties of air and water vapor.
- Calculates the results of any change in temperature, moisture, etc.
- Any pressure, any temperature.

STEAM PROPERTIES

- Calculates the properties of superheated, saturated or wet steam.
- Calculates the properties of water.

DESUPERHEATER

- Calculates the amount of water needed for a known inlet or outlet steam flow.
- Calculates the degrees of superheat at the inlet and outlet.

SPACE HEATING LOAD

- Calculates the maximum heating load required in a room so that a furnace can be sized. Includes windows, doors, etc. and infiltration.

DEAERATOR

- Calculates the steam required to deaerate condensate at any pressure.

TO ORDER

**The complete set of programs is
\$349.00 plus shipping.
Individual programs are
\$89.00 each plus shipping.**

In U.S.A. add \$5.00 for postage.
Outside U.S.A. add \$30.00
Available for IBM PC, XT, AT, & compatibles.

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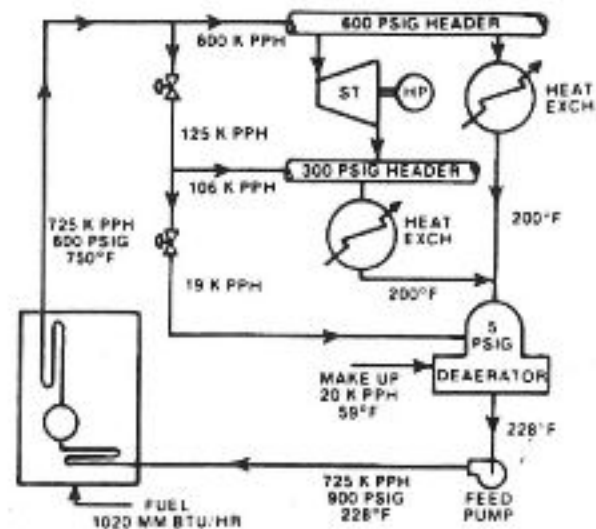
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NOW AVAILABLE...

For the engineer who designs, operates, or tests power plants or evaluates energy alternatives we are pleased to offer a series of sophisticated programs to help you in your work.

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INSULATION ECONOMICS

- Calculates heat loss and surface temperature through pipes and flat surfaces.
- Calculates present worth annual cost to own and operate insulation.
- Four types of insulation tables are included.
- Pipe sizes through 36".
- Shows optimum thickness.
- One to three layers of insulation from 0 to 10" total thickness.

SHELL & TUBE EXCHANGERS

- Calculates the performance of a given shell-&-tube heat exchanger.
- Outlet temperatures and pressure drops of both sides are calculated.
- The properties for water and air are built in (viscosity, density, heat conductivity and specific heat).

COMBUSTION ANALYSIS

- Accepts a fuel's analysis, gas, liquid, or solid, the exit gas temperature, and the excess air.
- Performs a complete combustion calculation, providing efficiency, fuel and air flow required.
- Gas composition calculated.
- Input parameters such as % excess air can be varied to perform quick, accurate sensitivity analysis.

PIPING PRESSURE DROP

- Accepts the fluid and pipe conditions for a gas or liquid and calculates the pressure drop in any kind of round pipe.
- Uses compressible and incompressible formulas for gases and liquids respectively.
- Allows choice of gpm, pph, scfm, acfm.
- Automatic calculation of water, steam, and air properties.

DUCT DESIGN

- For any gas at any pressure & temperature, calculates the performance of ducts, or sizes the system.
- Duct may be rectangular, round, or oval, and of any material.

COGENERATION ECONOMICS

- Calculates return on investment, present worth, and payback for a plant modification intended to produce on-site power.
- Accepts any type of fuel.
- Automatic escalation factors.

STEAM SURFACE CONDENSER

- Calculates the performance of steam surface condensers, or
- Calculates the surface required for a given performance.
- Properties of steam and water are built in.
- Tube properties are built in.
- Cleanliness of a condenser can quickly be determined.

CONDENSER-TOWER

- Combines the CONDENSER and COOLING TOWER programs.

PIPE NETWORK

- Determines the flow and pressure loss in each leg of a series-parallel pipe network using the iterative Hardy-Cross algorithm.
- A variety of flow units are allowed.
- Also calculates the pressure at each node.

COOLING TOWER

- Calculates the performance of a given cooling tower or helps to evaluate the optimum design parameters for a new tower based on the Cooling Tower Institute formulas.
- Also calculates the true water evaporated and blown-down under any variety of atmospheric conditions instead of relying on "rule of thumb approximations."

STEAM HEATER

- Calculates the performance of a steam shell-and-tube heat exchanger of known construction using rigorous formulations.
- Steam and Water properties are built in.
- The type of fouling can be selected.
- All input properties can quickly be varied.

STEAM TURBINE

- Calculates the performance of a given steam turbine, or
- Helps to determine optimum conditions for a new turbine.
- Steam tables are built in.
- Calculates theoretical steam rate, exit moisture, etc.

GRAVITY DRAIN FLOW

- Uses the Manning equation to calculate the flow of water in sloped drain pipes.
- Any size pipe, any roughness.

HEAT RECOVERY STEAM GENERATOR

- Calculates the flow of steam in a waste heat boiler.
- Unfired and fired conditions.
- Steam tables built in.

GAS EXPANDER

- Calculates the power produced and exit temperature of any gas expanded through a turbine.