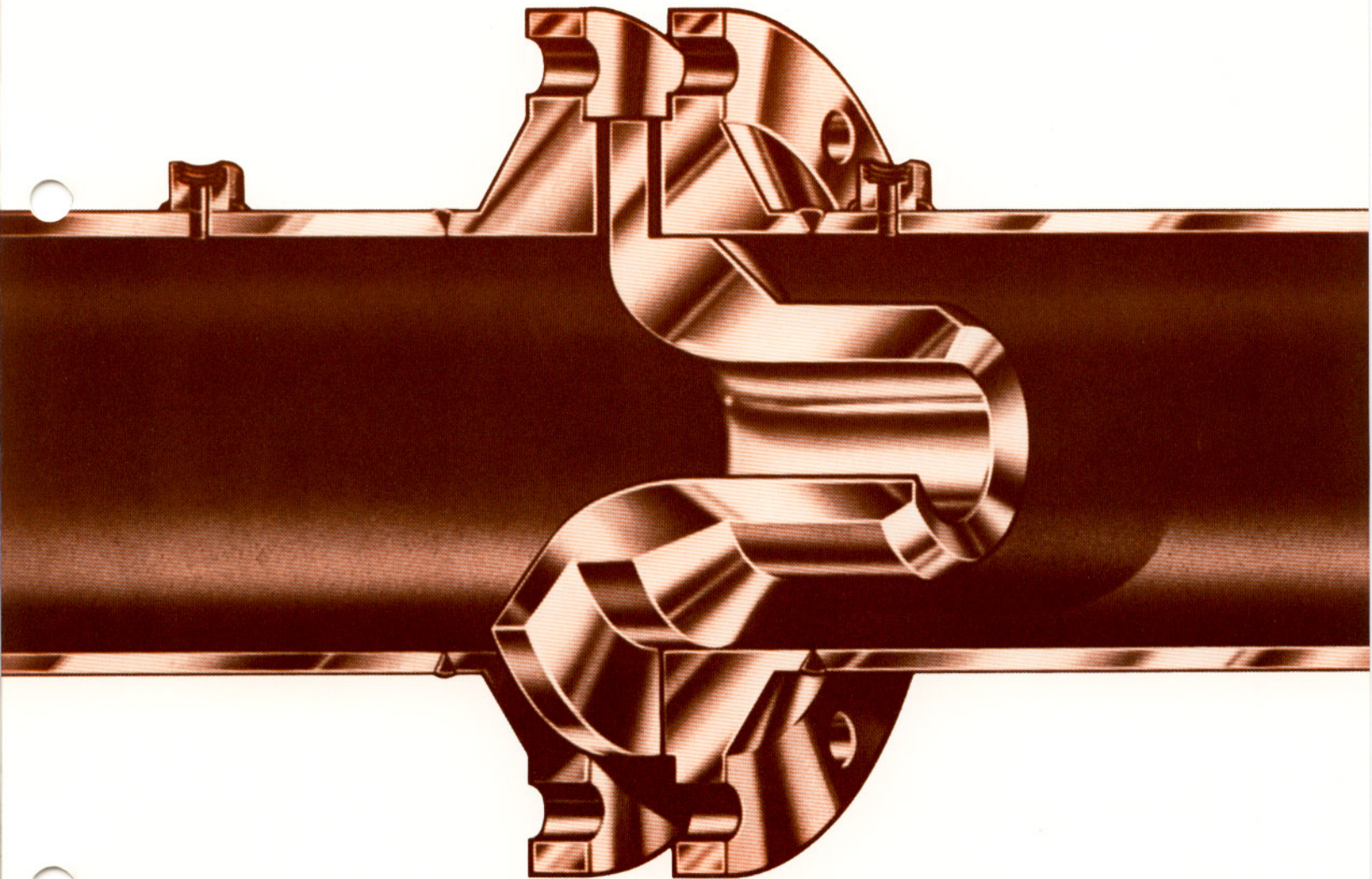


FLOW NOZZLES



TECH TUBE DIVISION

ENERGY FLOW SYSTEMS, INC.

P.O. BOX 14127 • HOUSTON, TEXAS 77221-4127
PHONE: (713) 741-8828 • FAX: (713) 747-7868

TECH TUBE FLOW NOZZLES

Tech Tube Flow Nozzles are calculated, designed and manufactured to ASME recommendations to provide high accuracy flow measurement.

The flow nozzle offers some distinct advantages over the thin plate orifice in that it produces less differential pressure for a given beta ratio resulting in an overall lower permanent pressure loss. Conversely, the flow nozzle will allow maximum flows nearly twice as great as a thin plate orifice with the same differential pressure.

Accuracy is also sustained indefinitely since there are no sharp edges or protrusions to wear.

ACCURACY

The completeness of published research data permits Tech Tube to provide the ASME type nozzle with an accuracy of $\pm 1\%$ without the need of flow calibration. Flow calibration is available to provide nozzles with $\pm 0.25\%$ accuracy when necessary.

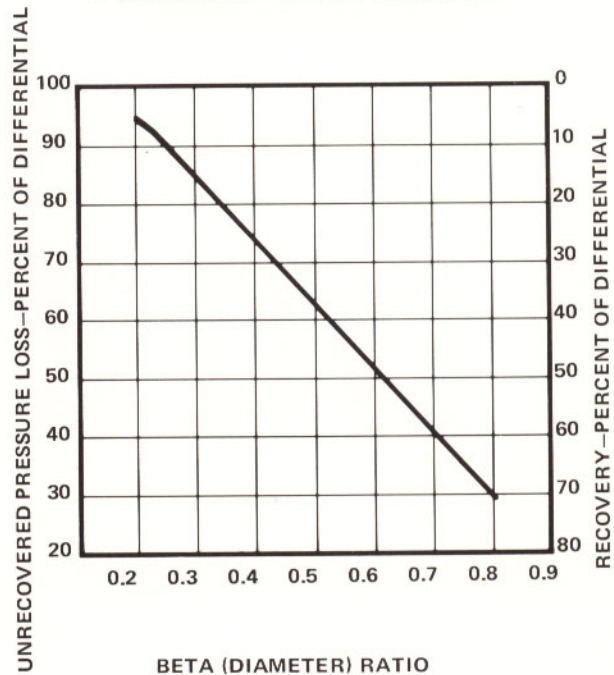
OPTIMIZED DESIGN

Optimum design is provided on each Tech Tube Flow Nozzle since it is manufactured for a specific beta ratio or throat diameter necessary to produce the desired differential pressure consistent with minimum pressure loss, piping requirements and accuracy of measurement.

MATERIALS of CONSTRUCTION

Tech Tube Flow Nozzles are built of various carbon and stainless steels, Inconel, nickel, alloy 20 and other materials to suit specific applications.

PRESSURE LOSS CURVES



ORDERING INFORMATION

After selecting the configuration best suited to your application, please fill in the appropriate model number as well as the following information on the flowing conditions.

For all fluids specify:

Model number _____

Materials of construction: _____

Pipe I.D. _____ or

Line size _____ & Pipe Schedule _____

Fluid _____

Units of flow _____

Max flow _____ Normal flow _____

Specific gravity:

Operating _____ Base _____

Temperature:

Operating _____ Base _____

Pressure: Operating _____

If liquid specify:

Viscosity @ Operating temperature _____

If gas specify:

Molecular weight _____

Base pressure _____

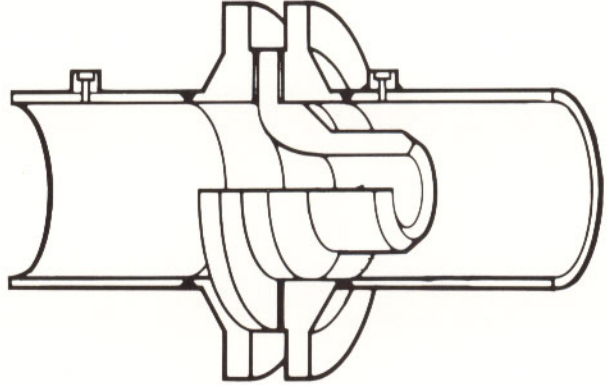
Gas composition _____ or

Specific heat ratio _____ and

Compressibility ratio (Z_f) _____

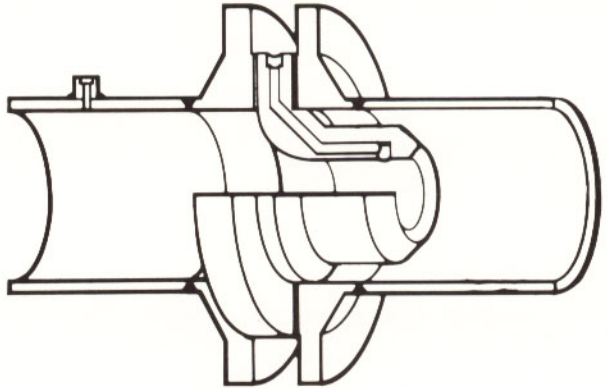
MODEL FN-P FLANGE TYPE NOZZLE

The Model FN-P is designed for installation between pipe flanges with the high and low pressure taps located in the piping.



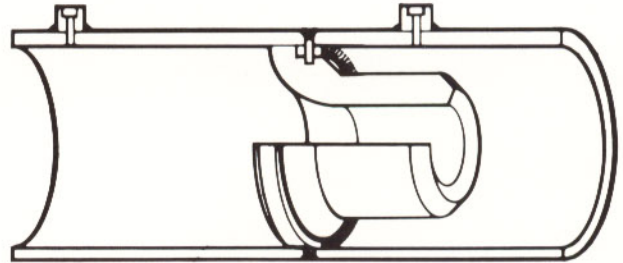
MODEL FN-T FLANGE TYPE NOZZLE

The Model FN-T is designed for installation between pipe flanges and includes an integral low pressure tap.



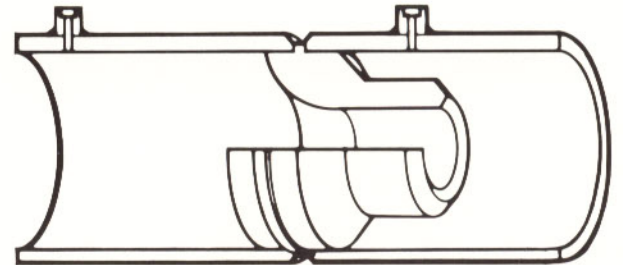
MODEL FN-HW WELD IN TYPE NOZZLE

The Model FN-HW is designed for weld in installation utilizing a welding ring and locking pins. It can be supplied installed in the necessary upstream and downstream piping as an assembly insuring maximum accuracy.



MODEL FN-W WELD IN TYPE NOZZLE

The Model FN-W is designed to be welded in piping sections and can be supplied installed in the necessary upstream and downstream piping as an assembly insuring maximum accuracy.



OTHER TECH TUBE

PRODUCTS INCLUDE

VENTURI TUBES

FLOW NOZZLES

ORIFICE PLATES

ORIFICE FLANGE UNIONS

METER TUBES



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ENERGY FLOW SYSTEMS, INC.

Represented By

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