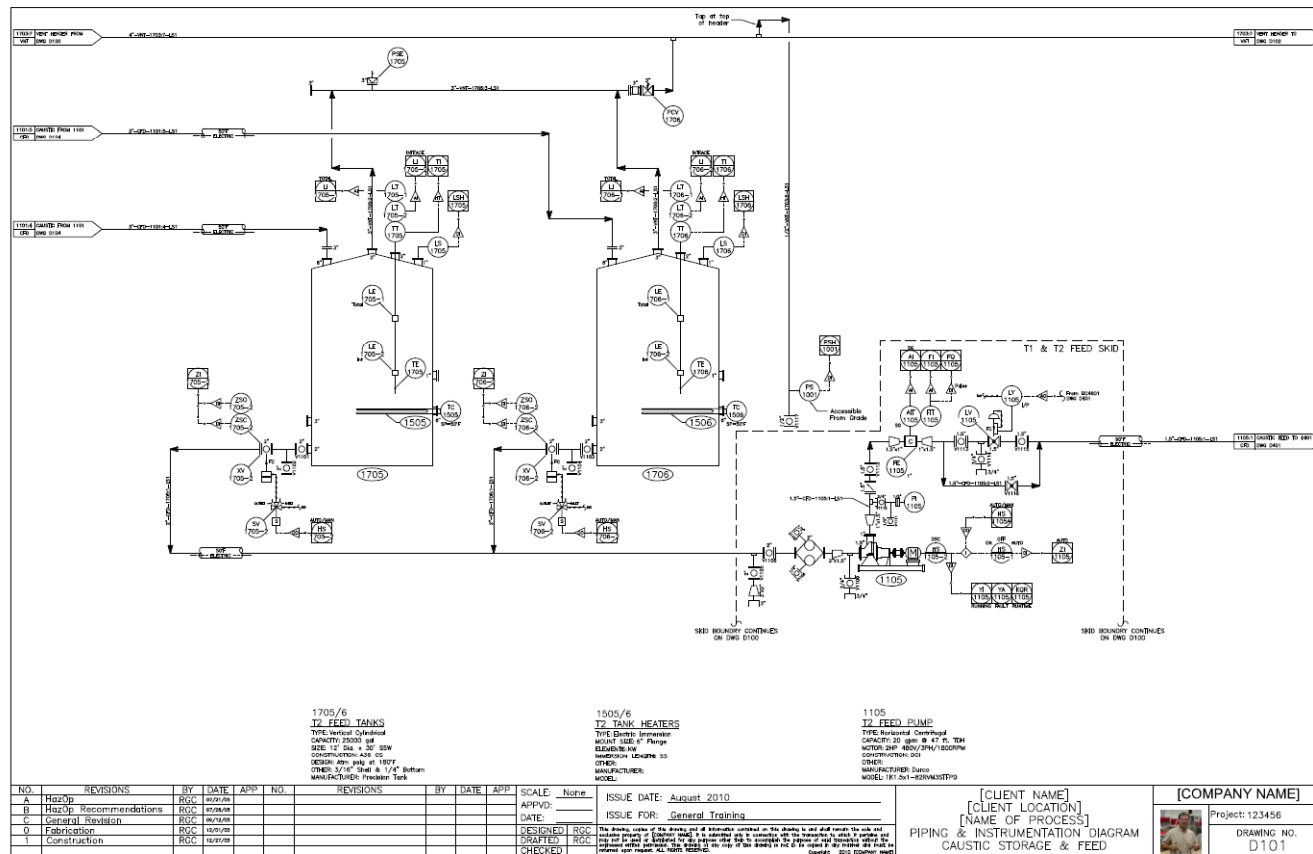


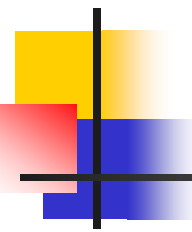
With a bit of smoke, a few mirrors and a degree in hieroglyphics, anyone can learn to read a P&ID!!

How To Read P&IDs



What are P&IDs

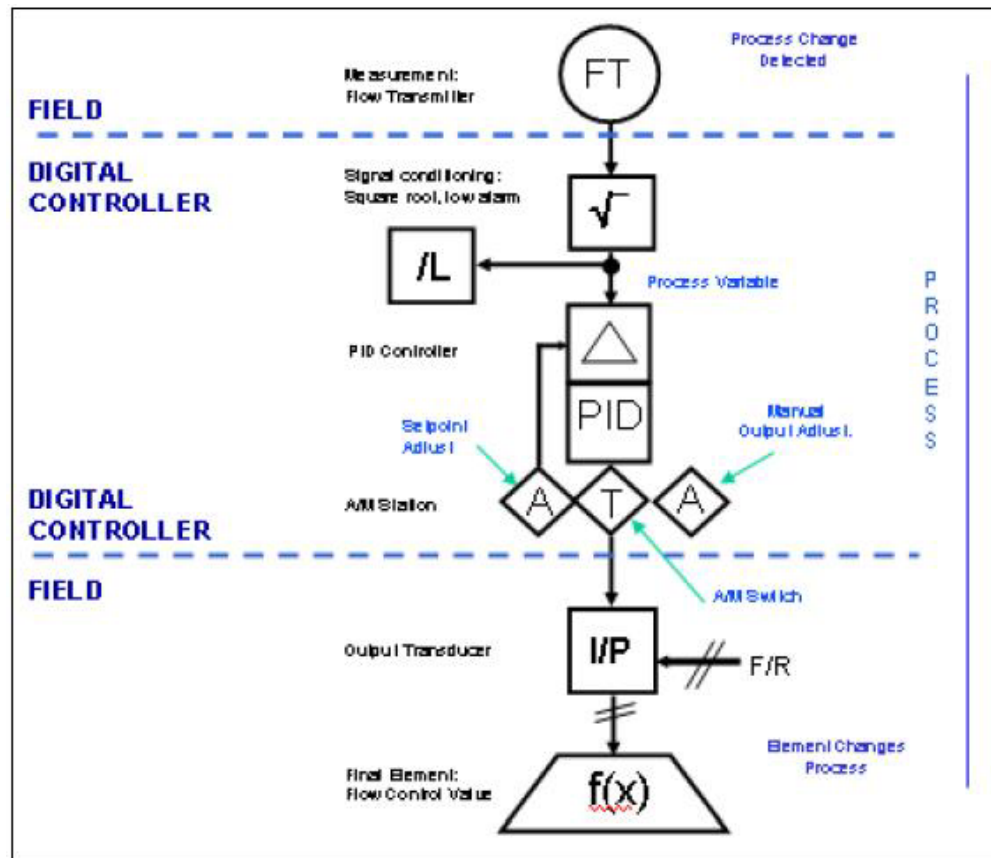




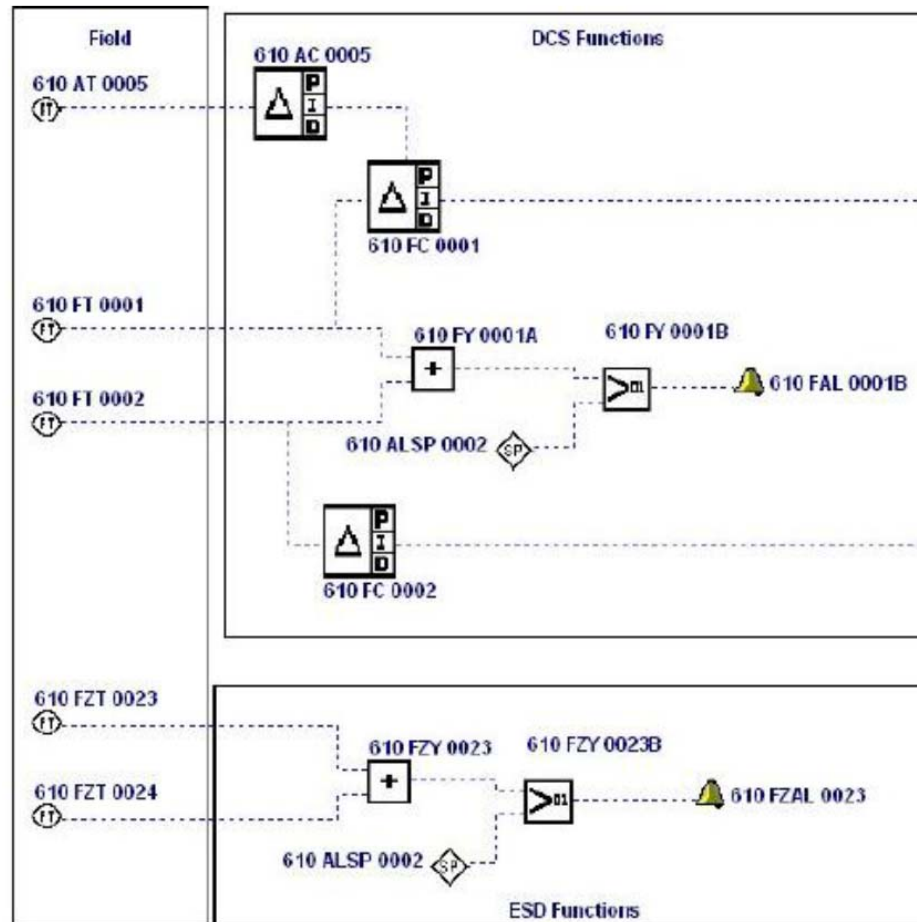
Other Documentations

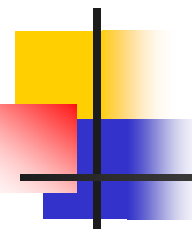
- Instrument Index
- PFDs
- SAMA drawings
- Loop drawings
- Control narratives

SAMA Drawings



Loop Drawings

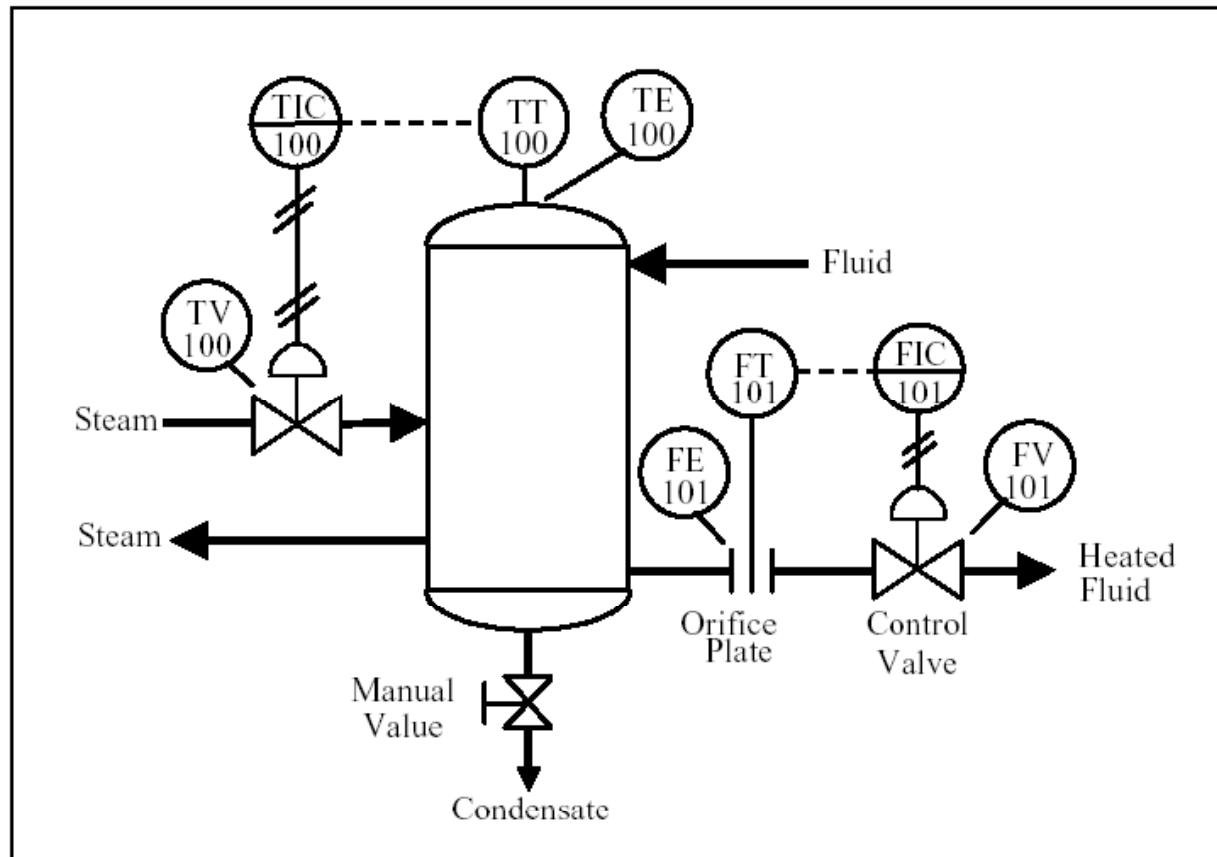




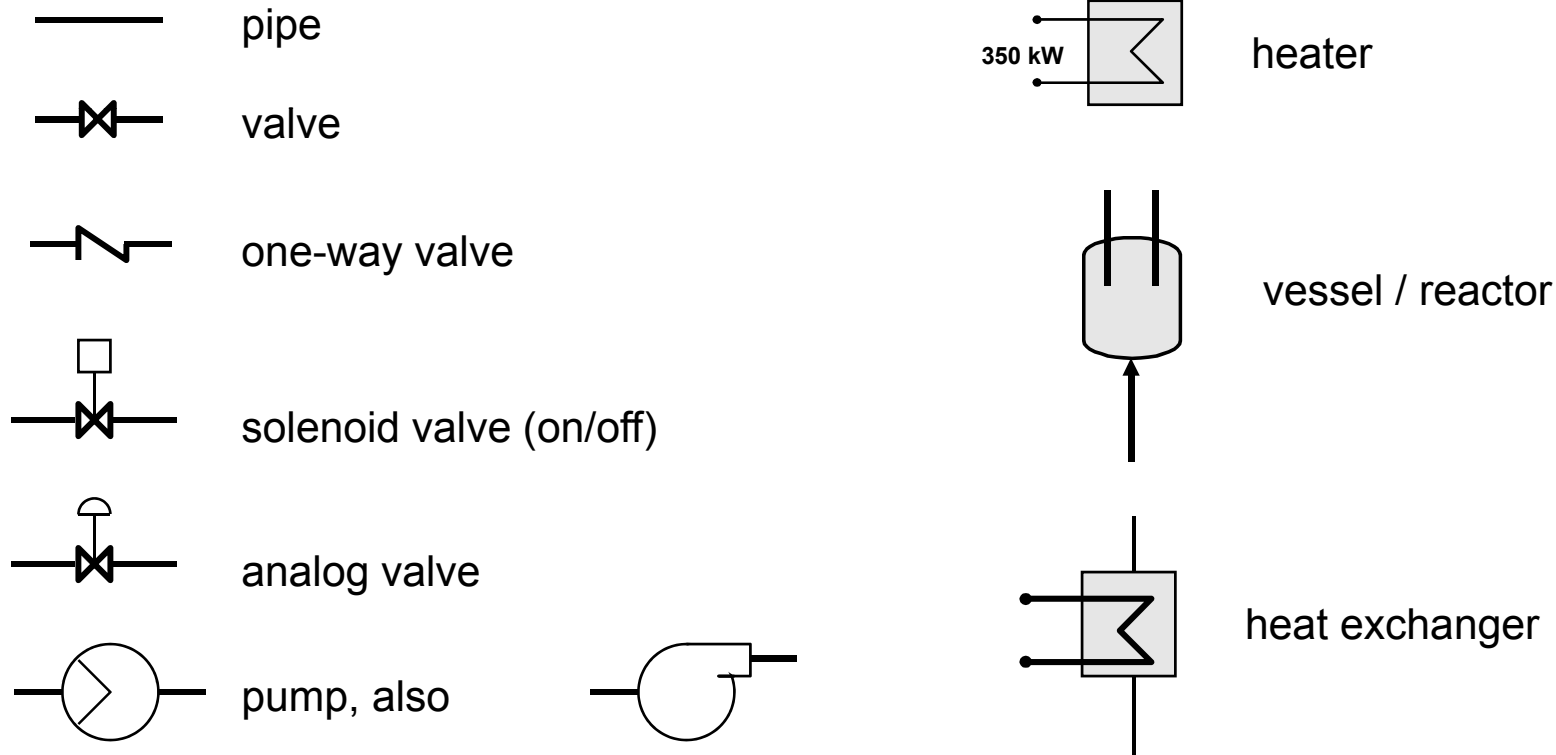
Limitations of P&IDs

- Not to scale
- Not geometrically accurate
- Color blind
- Not definitive
- Not drawn consistently

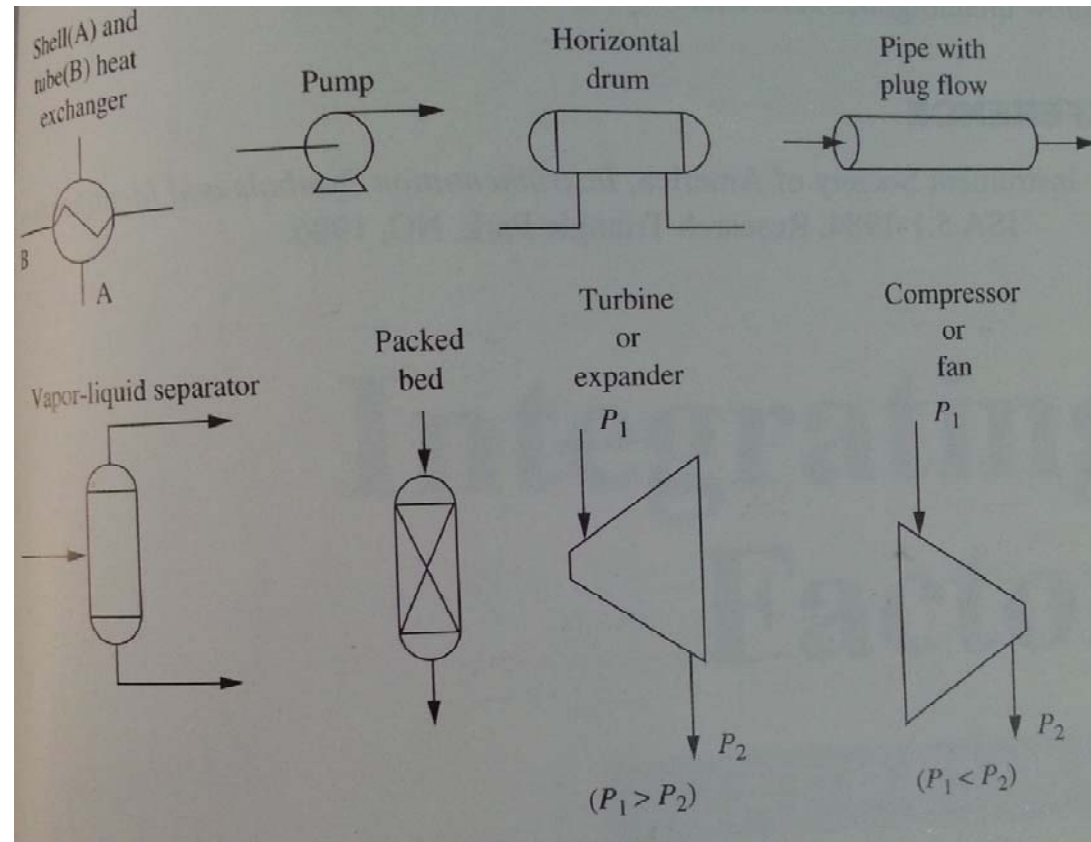
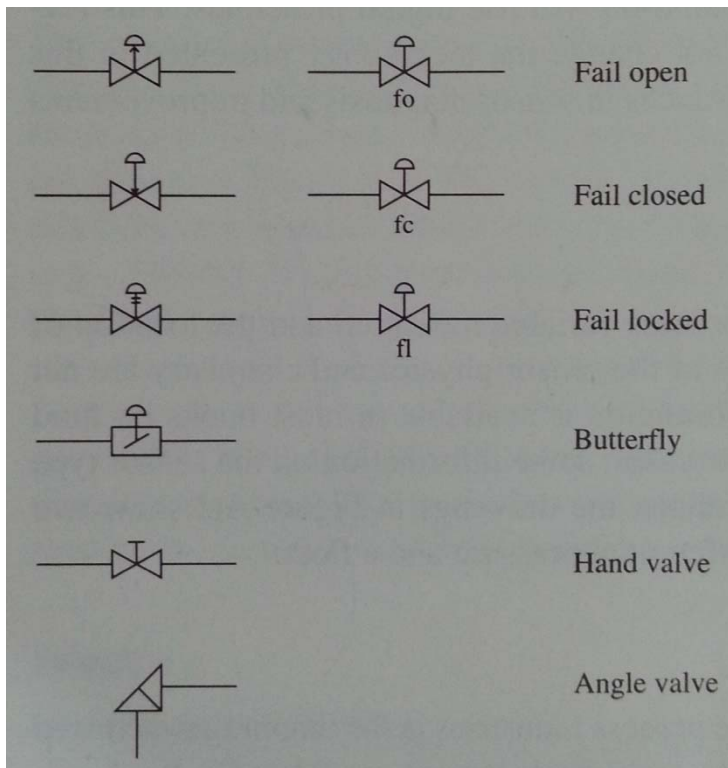
Zoom In



P&ID Symbols



P&ID Symbols



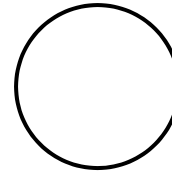
Singal Types

- Instrument supply or connection to process
- Pneumatic signal
- Electric signal
- Software link or communication link

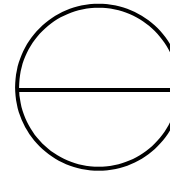


Function Symbols

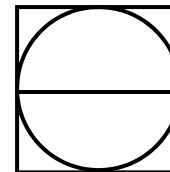
- Field



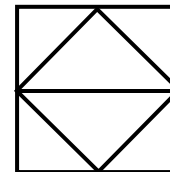
- control panel



- DCS

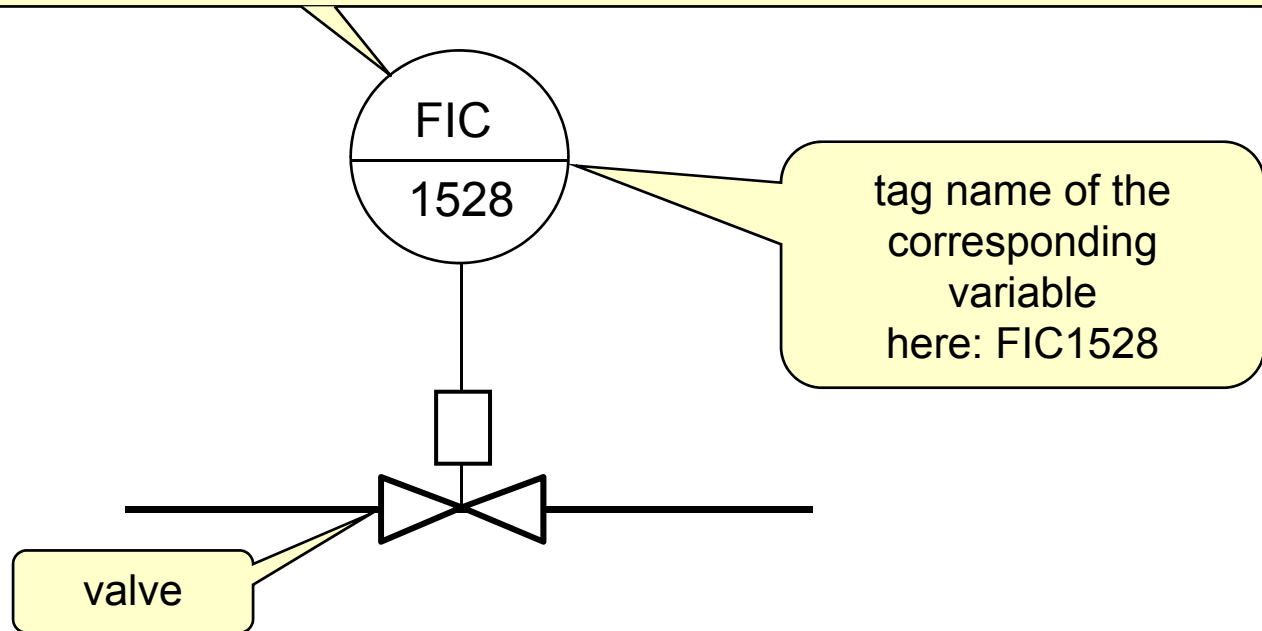


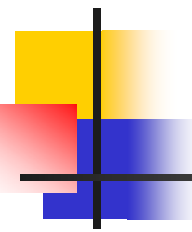
- PLC



Instrument Identification

The first letter defines the measured or initiating variables such as: Analysis (A), Flow (F), Temperature (T), etc. with succeeding letters defining functions such as: Indicator (I), Record (R), Transmit (T), here: flow indicator and controller



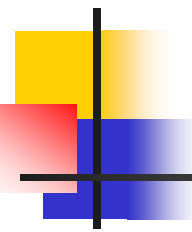


Identification Letters

First letter	
T	Temperature
P	Pressure
L	Level
F	Flow rate
A	Analyzer
V	Vibration

First letter	
C	Conductivity
I	Current
S	Speed
J	Power
Z	Position
H	Hand

Modifier	
D	Differential
Q	Totalizer

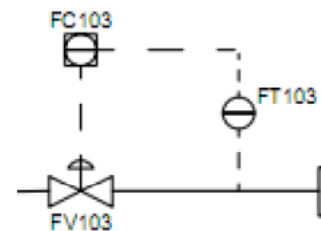
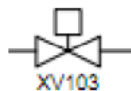
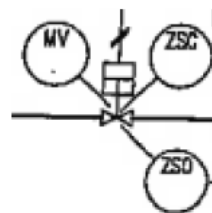
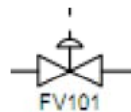
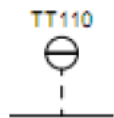


Identification Letters

Succeeding letter	
E	Element
T	Transmitter
I	Indicator
C	Controller
V	Valve
F	Fraction

Succeeding letter	
R	Recorder
A	Alarm
Y	Computation
S	Switch
H	High
L	Low

Examples



The output of FIC 101 is an electrical signal to TY101 located in an inaccessible or behind-the-panel-board location

Example P&ID

Square root extraction of the input signal is part of FIC 101's functionality.

FT101 is a field-mounted flow transmitter connected via electrical signals (dotted line) to flow indicating controller FIC101 located in a control panel

The output signal from TY101 is a pneumatic signal (line with double forward slash marks) making TY101 an I/P (current to pneumatic transducer)

TIC 101's output is connected via an internal software or data link (line with bubbles) to the setpoint (SP) of FIC101 to form a cascade control strategy

TT 101 and TIC101 are similar to FT 01 and FIC101 but are measuring, indicating, and controlling temperature

