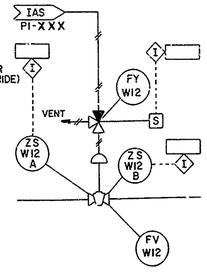
VERIFY ALL DOCUMENTS FOR CURRENT REVISION AND PENDING CHANGES PRIOR TO EACH USE.
INIT_____ DATE_____

EQUIPMENT AND INSTRUMENT IDENTIFICATION

- LOCAL PANEL MOUNTED
- INSTRUMENT MOUNTED ON EQUIPMENT — PI W10
- PANEL MOUNTED INSTRUMENT (FRONT OF PANEL) — PIC W11
- PANEL MOUNTED INSTRUMENT (REAR OF PANEL) — TSH W12
- INSTRUMENT ELECTRIC SIGNAL
- MECHANICAL INTERLOCK
- NUCLEAR, SONIC, OR THERMAL RADIATION SIGNAL
- INSTRUMENT AIR SIGNAL
- PRIMARY PROCESS LINE
- SECONDARY PROCESS OR INSTRUMENT LINE
- ELECTRIC HEAT TRACED PROCESS LINE
- STEAM HEAT TRACED PROCESS LINE — S S
- HEATING FLUID TRACED PROCESS LINE
- DIRECTION OF FLOW
- INDICATES ITEM SUPPLIED BY VENDOR WITH MAJOR EQUIPMENT ITEM(S) OR SYSTEM
- VENDOR SUPPLIED PACKAGE — —P—P—P—
- INPUT TO OR OUTPUT FROM SYSTEM BY OTHERS — TO LIQUID WASTE SYSTEM
- INPUT TO OR OUTPUT FROM P&ID SHEET — TO EVAPORATOR PI-XXX
- SIGNAL TO OR FROM INSTRUMENT ON P&ID SHEET — TR-W27 PI-XXX
- PLANT AIR SUPPLY — PAS PI-XXX
- INSTRUMENT AIR SUPPLY — IAS PI-XXX
- PUMP OR FAN, CENTRIFUGAL
- PUMP, DOUBLE DIAPHRAGM
- METERING FEED PUMP (DIAPHRAGM OR PISTON)
- PUMP, TURBINE — M
- VERTICAL PUMP — M
- GEAR PUMP
- DOUBLE BASKET STRAINER
- Y STRAINER
- LUBRICATOR — 1 — L
- FILTER — F
- REDUCER
- FILTER, REGULATOR, LUBRICATOR — UNIQUE NO. FRL-XXX

- SIGHT FEED VALVE
- FLAME ARRESTER — FA
- DIAPHRAGM SEAL
- FLOW ORIFICE
- ROTAMETER WITH INTEGRAL NEEDLE VALVE — FIC
- CYLINDER
- BUTTERFLY VALVE OR DAMPER
- GATE VALVE
  - LO LOCK OPEN — LO
  - LC LOCK CLOSED — LC
- START-UP STRAINER — S
- GLOBE VALVE
- DIAPHRAGM VALVE
- PLUG VALVE
- PINCH VALVE
- NEEDLE VALVE
- 3-WAY PLUG VALVE
- 3 OR 4-WAY VALVE
- BALL VALVE
- BALL CHECK VALVE — FLOW DIREC.
- SWING CHECK VALVE
- SAFETY RELIEF VALVE OR CONSERVATION VENT — PRESSURE VACUUM
- AUTOMATIC VALVE FAILURE POSITION — FC
  - FA FAIL AS IS
  - FC FAIL CLOSED
  - FO FAIL OPEN
- PHOTO CELL — 1
- ACCUMULATOR
- INLINE DEVICE
- THERMOWELL
- INTERLOCK W/WIRING DIAGRAM REF.# — I
  "M" DESIGNATES PLC INTERNAL MEMORY ADDRESS
- ALARM W/WIRING DIAGRAM REF. — A
- AIR MOTOR — A
- SOLENOID VALVE ACTUATOR — S
- MOTOR VALVE ACTUATOR — M
- DIAPHRAGM VALVE ACTUATOR
- PISTON VALVE ACTUATOR — T
- ELECTRIC MOTOR — M

TYPICAL INSTRUMENT PACKAGE SUPPLIED WITH EACH AUTOMATIC 2-WAY VALVE (PNEUMATIC ACTUATOR WITH ELECTRIC OVERRIDE)
EXAMPLE:
ZS-W12 A = CONTACT CLOSES WHEN VALVE IS FULLY OPEN
ZS-W12 B = CONTACT CLOSES WHEN VALVE IS FULLY CLOSED



FOR VALVES WITH MULTIPLE POSITIONS A LIMIT SWITCH IS PROVIDED FOR EACH POSITION
ZS-W12 A, B, OR C ETC.

SOLENOID VALVE FAILURE POSITION - SHADED PORT CLOSED WHEN COIL DEENERGIZED

INSTRUMENT TAG IDENTIFICATION

PROCESS VARIABLE

- A – ANALYTICAL
- B – BURNER FLAME
- C – CONDUCTIVITY
- D – DENSITY
- F – FLOW
- H – HAND
- I – CURRENT
- L – LEVEL
- P – PRESSURE
- PD – DIFFERENTIAL PRESSURE
- S – SPEED
- T – TEMPERATURE
- U – MULTI VARIABLE
- Z – POSITION OR LIMIT

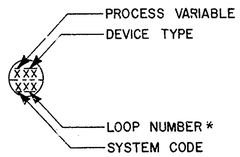
DEVICE TYPE

- C – CONTROLLER
- E – SENSING ELEMENT
- T – TRANSMITTER
- I – INDICATOR
- R – RECORDER
- V – VALVE
- S – SWITCH
- S – WITH NO PREFIX IS A SAMPLE POINT
- SH – SWITCH HIGH
- SHH – SWITCH HIGHER THAN SH
- SL – SWITCH LOW
- SLL – SWITCH LOWER THAN SL
- SHL – SWITCH HIGH & LOW
- IC – INDICATOR CONTROLLER
- FY – FUNCTION GENERATOR
- Y TRANSDUCER
- SV SAFETY VALVE
- CV CONTROL VALVE
- O – ORIFICE

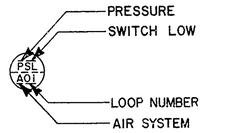
SYSTEM CODE

- A – AIR
- B – BITUMEN
- C – CLEAN WATER
- D – PROCESS WATER
- E – EVAPORATION
- F – FLUE GAS
- G –
- H – HEATING FLUID
- I – INCINERATION
- J –
- K –
- L – LUBE OIL
- M – MATERIAL HANDLING
- N – NATURAL GAS
- P – FIRE PROTECTION
- Q –
- R – REAGENT
- S – STEAM
- T –
- U –
- V – VENTILATION (HVAC)
- W – WASTE MATERIAL
- X –
- Y –
- Z –

DEVICE TAG

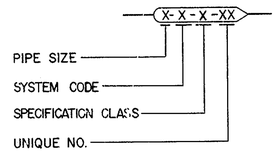


EXAMPLE

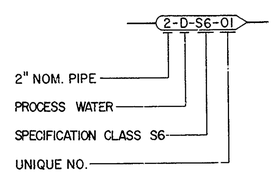


* LOOP NO. MAY HAVE SINGLE LETTER OR NUMBER SUFFIX TO DISTINGUISH BETWEEN SIMILAR BUT SEPARATE LOOPS.

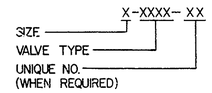
PIPE LINE IDENTIFICATION



EXAMPLE



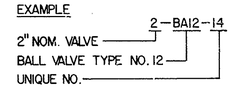
HAND VALVE IDENTIFICATION



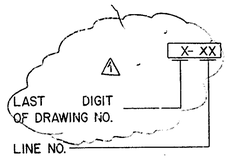
VALVE TYPES

- BAXX – BALL
- BFXX – BUTTERFLY
- CKXX – CHECK
- DMXX – DAMPER
- DPXX – DIAPHRAGM
- GAXX – GATE
- GLXX – GLOBE
- NRXX – NEEDLE
- PLXX – PLUG
- PNXX – PINCH

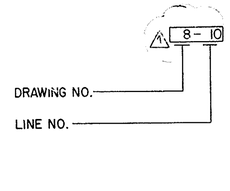
EXAMPLE



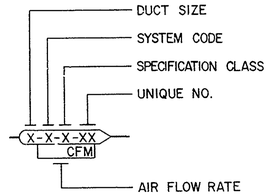
WIRING DIAGRAM REFERENCE



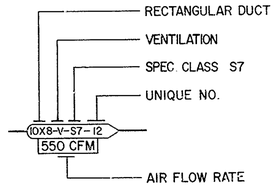
EXAMPLE



DUCT IDENTIFICATION



EXAMPLE



EQUIPMENT & INSTRUMENT IDENTIFICATION

- 3 VALVE MANIFOLD — X-MN-XXX; SIZE; UNIQUE NO.
- QUICK DISCONNECT
- HOSE — X-HS-XXX; SIZE; HOSE; UNIQUE NO.
- QUICK DISCONNECT WITH BALL CHECK VALVES
- QUARTER TURN PISTON ACTUATOR WITH GEARBOX & DECLUTCHABLE HANDWHEEL

Rev	Drawn	Check	Appr	PE Appr	Date	Description
0	RH				5/8/86	ER733
1	MEW				11/6/86	REVISED PER ERA 172-070
0	JGM				11/16/86	ISSUED FOR FAB.

WVNS APPROVAL

COG. MGR		5/9/86
COG. ENGR.	A.L. Nassl	5/5/86
DRFT. SUPR.		5/6/86
Q.A.		5/14/86

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WEST VALLEY NUCLEAR SERVICES
PIPING & INSTRUMENTATION
DIAGRAM LEGEND

Scale ~ | Drawing No. 172-PI-00 | Rev 0