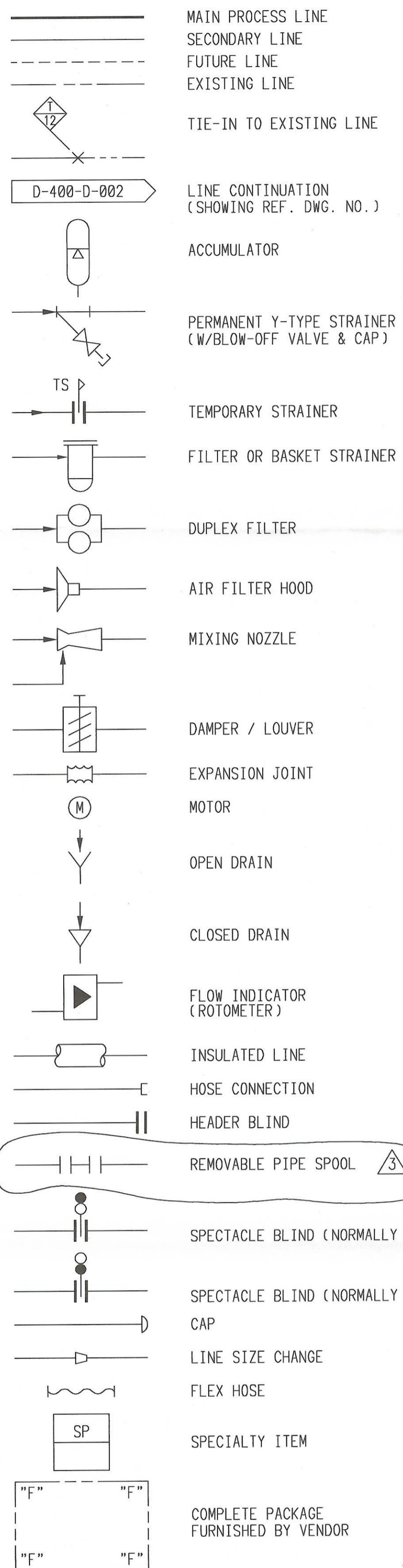
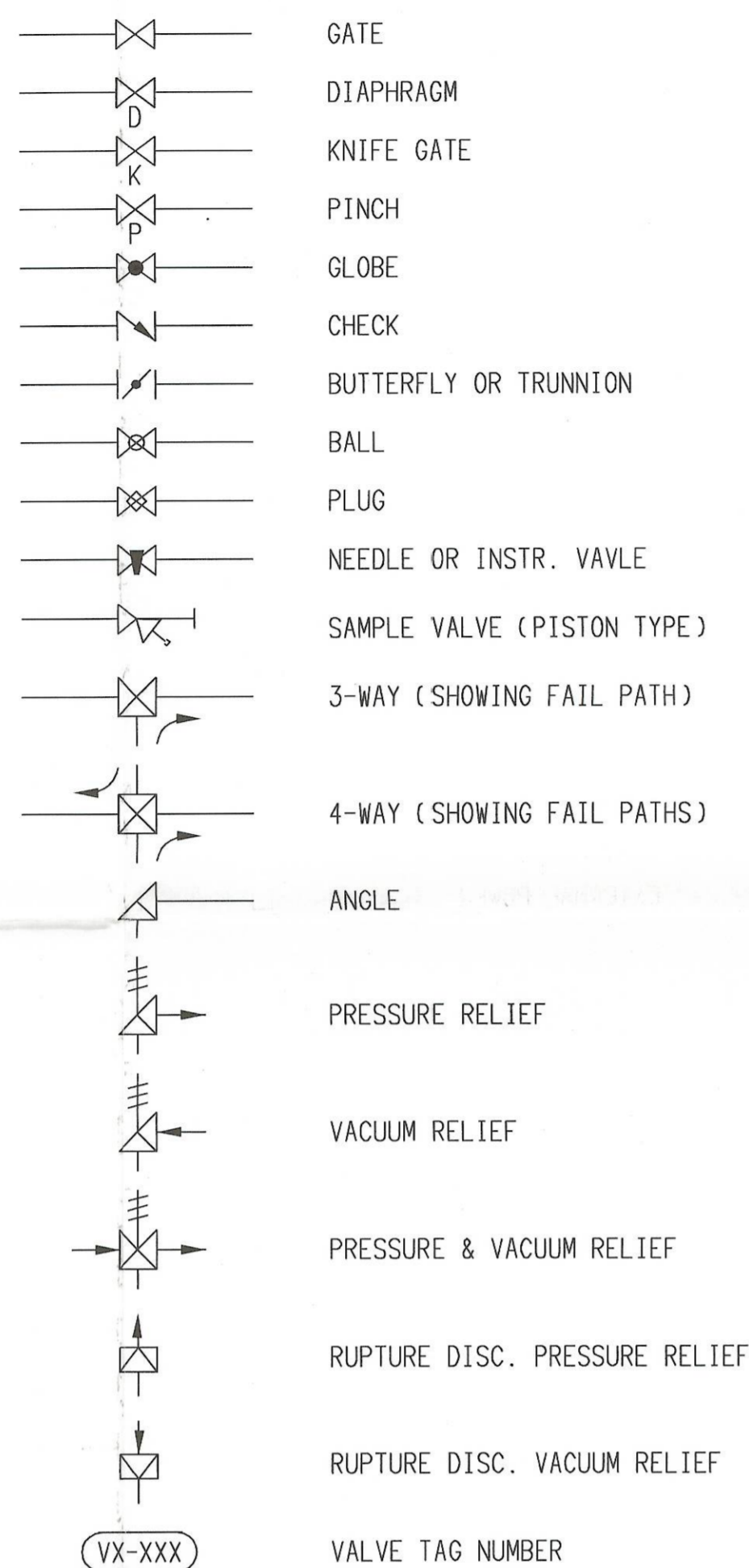


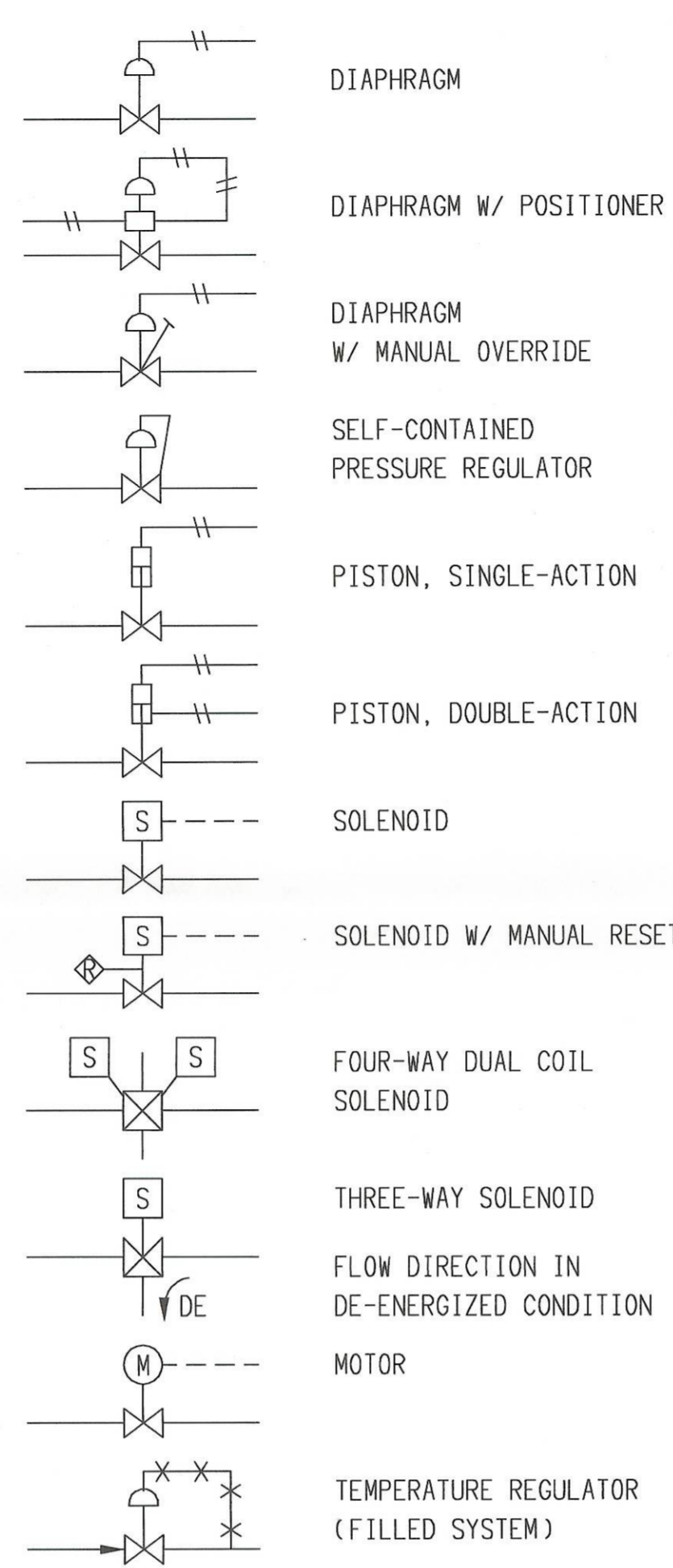
MISC. PIPING SYMBOLS



VALVES



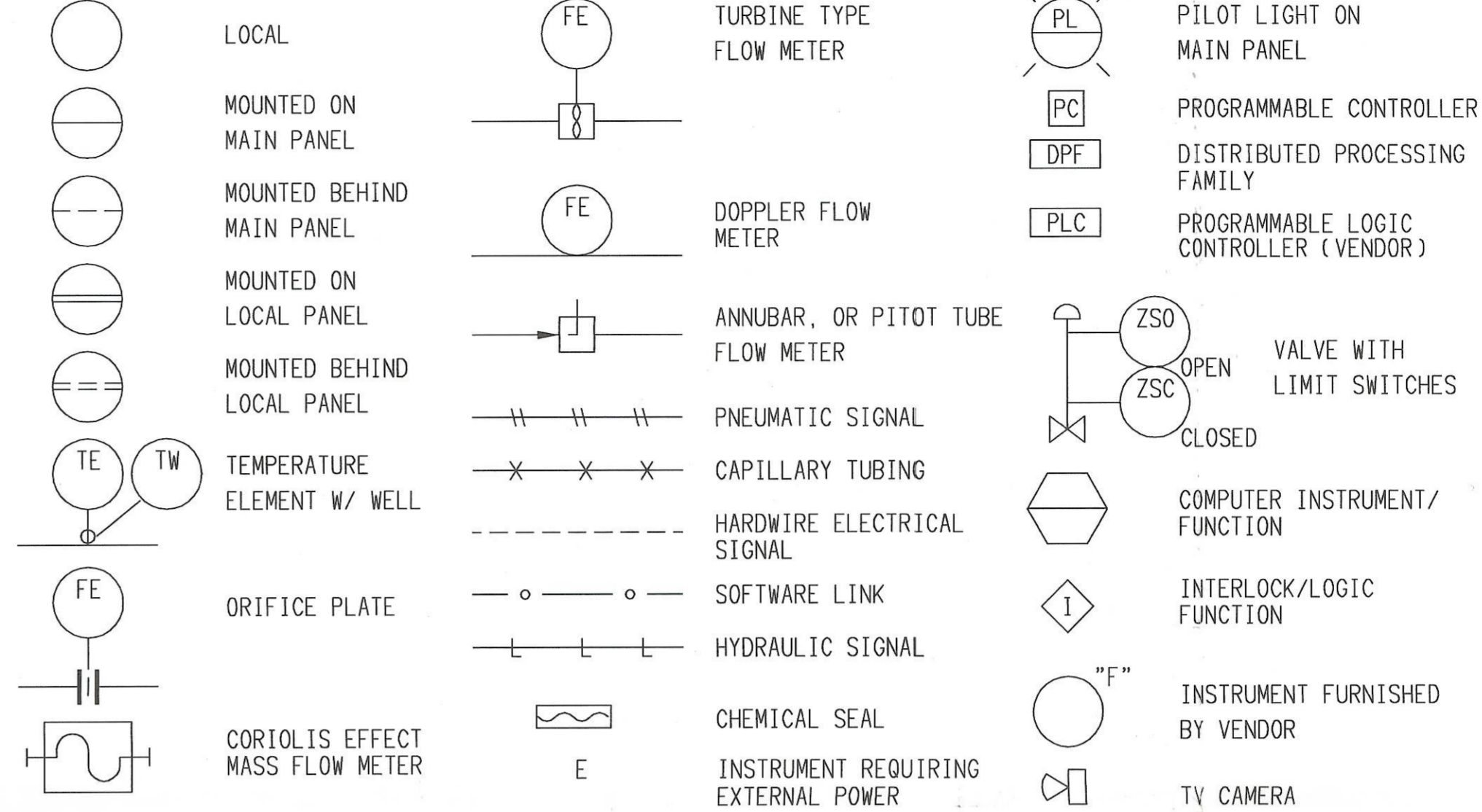
ACTUATORS



ABBREVIATIONS

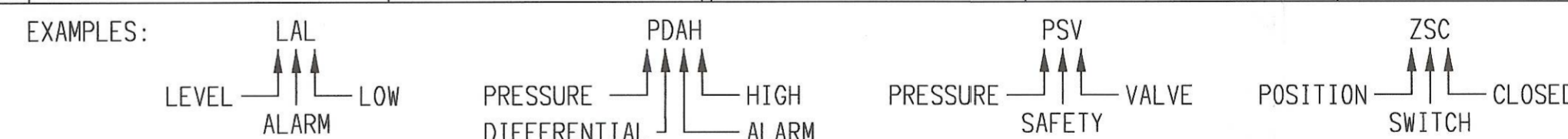
AI	ANALOG INPUT	JOR	JOG-OFF-REMOTE
AO	ANALOG OUTPUT	LC	LOCK CLOSED
A/S	INSTRUMENT AIR SUPPLY	L/L	LEAD/LAG
BAA	BELT ALIGNMENT ALARM	MW	MANWAY
BAS	BELT ALIGNMENT SWITCH	LO	LOCK OUT
CSC	CAR SEAL CLOSED	NC	NORMALLY CLOSED
CSO	CAR SEAL OPEN	NO	NORMALLY OPEN
DI	DISCRETE INPUT	PB	PUSH BUTTON
DO	DISCRETE OUTPUT	PL	PILOT LIGHT
DFR	DESIGN FLOW RATE	SD	SHUTDOWN
ESD	EMERGENCY SHUTDOWN	SP	SAMPLE POINT
"F"	FURN. BY EQUIPMENT VENDOR	SS	SELECTOR SWITCH
FB&D	FORD, BACON & DAVIS	SSL	SPEED SWITCH (LOW)
FC	FAIL CLOSED	SAL	SPEED ALARM (LOW)
FI	FAIL INDETERMINATE	SV	SOLENOID VALVE
FL	FAIL LOCKED	TDH	TOTAL DIFFERENTIAL HEAD
FO	FAIL OPEN	TS	TEMPORARY STRAINER
GPM	GALLONS PER MINUTE	UPS	UNINTERRUPTIBLE POWER SUPPLY
GS	GAS SUPPLY	VFD	VARIABLE FREQUENCY DRIVE
HDR	HEADER		
HOA	HAND-OFF-AUTOMATIC		
HOR	HAND-OFF-REMOTE		
HS	HAND SWITCH (PULL CHORD)		
HSA	HAND SWITCH ALARM		
IP	INJECTION POINT		
I/P	ELECTRIC TO PNEUMATIC TRANSDUCER		

INSTRUMENTATION



INSTRUMENT IDENTIFICATION

FIRST LETTER		SUCCEEDING LETTERS		
MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A ANALYSIS, ANALYZER		ALARM	USER'S CHOICE	USER'S CHOICE
B BURNER FLAME		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C CONDUCTIVITY (ELECTRICAL)			CONTROL	
D DENSITY (MASS) OR SPECIFIC GRAVITY	DIFFERENTIAL			
E VOLTAGE (EMF)		PRIMARY ELEMENT		
F FLOW RATE	RATIO (FRACTION)			
G GAGING (DIMENSIONAL)		GLASS		
H HAND(MANUALLY INITIATED)				HIGH
I CURRENT (ELECT.)		INDICATE		
J POWER	SCAN			
K TIME OR TIME SCHEDULE			CONTROL STATION	
L LEVEL		LIGHT (PILOT)		LOW
M MOISTURE OR HUMIDITY				MIDDLE OR INTERMEDIATE
N USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O USER'S CHOICE				
P PRESSURE OR VACUUM		POINT (TEST CONNECTION)		
Q QUANTITY OR EVENT	INTEGRATE OR TOTALIZE			
R RADIOACTIVITY	RESTRICTING SAFETY	RECORD OR PRINT	REGULATING SWITCH	RELIEF
S SPEED OR SOLENOID			TRANSMIT	
T TEMPERATURE			MULTIFUNCTION VALVE, DAMPER OR LOUVER	MULTIFUNCTION
U MULTIVARIABLE				
V VIBRATION, VISCOSITY				
W WEIGHT OR FORCE		WELL		
X UNCLASSIFIED		UNCLASSIFIED	UNCLASSIFIED RELAY, COMPUTE, OR CONDITIONING DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	UNCLASSIFIED
Y USER'S CHOICE				
Z POSITION				



LINE IDENTIFICATION

- XX"-XXX-XXXX-XXX-X"-XXX
(1) (2) (3) (4)(5) (6)
- NOMINAL LINE SIZE IN INCHES.
 - SERVICE/COMMODITY DESIGNATION (SEE BELOW).
 - LINE SPECIFICATION (SEE BELOW).
 - LINE NUMBER.
 - INSULATION THICKNESS IN INCHES.
 - SPECIAL INSULATION REQUIREMENTS:
PP = PERSONNEL PROTECTION
ET = ELECTRICAL TRACING
GWT = GLYCOL / WATER TRACING

EXAMPLE:
16"DAC-050FR-001-1"PP
(1) (2) (3) (4)(5)(6)

SERVICE IDENTIFICATION

CWR	COOLING WATER RETURN
CWS	COOLING WATER SUPPLY
DAC	DILUTE ACID
DW	DRAIN WATER
FO	FUEL OIL
HO	HYDRAULIC OIL
HTF	HEAT TRANSFER FLUID
HYG	HYDROCARBON GAS
IA	INSTRUMENT AIR
NG	NATURAL GAS OR PROPANE
NL	NITROGEN
PA	PLANT AIR
PW	POTABLE WATER
RW	RAW WATER
SA	SODA ASH, DRY
SAS	SODA ASH SOLUTION
WS	SLUDGE WASTE
WL	LIQUID WASTE
HPB	HIGH PRESSURE BRINE

PIPING SPECIFICATION

SPEC. NO.	DESCRIPTION	ANSI CLASS RATING (#)	MAX. ALLOWED PRESS./TEMP (PSIG/°F)
150 CA	POTABLE WATER (ABOVE GROUND, UNDERGROUND, DOMESTIC)	150	210/300
150 CB	NATURAL GAS, LUBRICATING OIL, FUEL OIL, DRAIN WATER (CONTAMINATED), SODA ASH SOLUTION, DRY SODA ASH	150	210/300
300 CB	HEAT TRANSFER FLUID	300	720/600
150 CC	PLANT AIR, INSTRUMENT AIR, NITROGEN, COOLING WATER, PLANT WATER, DRAIN WATER (NON-CONTAMINATED)	150	210/300
150 CD	TSCA & RCRA REGULATED WASTE LIQUID, PNEUMATIC CONVEYING	150	210/300
025 CF	HYDROCARBON VENTILATION, COMBUSTION AIR	N/A	25/200
075 FR	DILUTE ACID	N/A	75/200
150 FR	DILUTE ACID	N/A	125/200
225 FR	DILUTE ACID	N/A	225/225
3000 SS	HYDRAULIC OIL	N/A	3070/400
600 CB	HIGH PRESSURE BRINE	600	1800/200
300 CS	SLUDGE	300	1080/110

INTERLOCK

DESCRIPTION

REVISIONS

NO	DESCRIPTION	DATE	BY	CHK	ELEC	MECH	STR	PROJ MGR
1	ISSUED FOR CONSTRUCTION	7-7-89	MU	IRB				JV
2	AS BUILT	07-03-91	DCP					
3	600 BC WAS 600 HA	09-07-00	GVC					
4	ADDED REMOVABLE PIPE SPOOL SYMBOL	04-26-02	KL					

REFERENCE DRAWINGS

DRAWING NO	TITLE



APPROVALS

BY	DATE	BY	DATE

CURRENT DRAWING STATUS

BY	DATE

UTAH ENVIRONMENTAL SERVICE CENTER
INCINERATION PLANT FOR INDUSTRIAL WASTES
P&ID LEGEND SHEET 1

FOR TOOELE SITE
SCALE: NONE
JOB NO:
ENG. DWG NO:

CAD DISK FILE: EI909G
APTUS DWG NO: D-034-PI-001
REV: 3

DATE: 5-7-02