

FUNCTIONAL DESCRIPTION OF INSTRUMENT IDENTIFICATION

FIRST LETTER	MEASURED OR INITIATING VARIABLE		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS	ANALOG	ALARM		
B	BURNER FLAME		USERS CHOICE	USERS CHOICE	BEARING
C	CHLORINE			CONTROL	
D	TURBIDITY	DIFFERENTIAL OR DIGITAL			
E	VOLTAGE (EMF)		PRIMARY ELEMENT		
F	FLOW RATE	RATIO (FRACTION)			
G	GAGING (DIMENSIONAL)		GLASS		
H	HAND (MANUALLY INITIATED)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME OR TIME SCHEDULE			CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOISTURE OR HUMIDITY	MOTOR			MIDDLE OR INTERMEDIATE
N	PARTICLE		USERS CHOICE	USERS CHOICE	RUN
O	CHLORINE DIOXIDE	OPERATED	ORIFICE (RESTRICTION)		OPEN
P	PRESSURE OR VACUUM		POINT (TEST CONNECTION)		
Q	QUANTITY OR EVENT	INTEGRATE OR TOTALIZE			
R	RADIO	REGULATE	RECORD OR PRINT		RECEIVER
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION		VALVE, DAMPER OR LOUVER		
W	WEIGHT OR FORCE		WELL		WINDING
X	UNCLASSIFIED		UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	RUN			RELAY OR COMPUTE	
Z	POSITION			DRIVE, ACTUATE OR UNCLASSIFIED FINAL CNTRL. ELMT.	

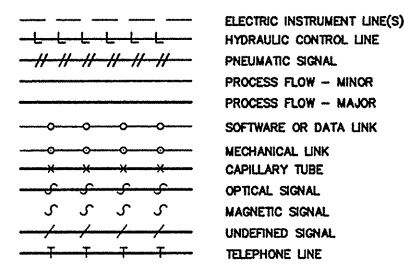
THE FOLLOWING DESIGNATIONS ARE USED TO BETTER IDENTIFY AN INSTRUMENT FUNCTION

I/P - CURRENT TO PNEUMATIC CONVERTER
 E/I - VOLTAGE TO CURRENT CONVERTER
 Σ - ADD OR TOTALIZE
 √ - SQUARE ROOT
 X - MULTIPLY
 ÷ - DIVIDE
 > - HIGH SELECT
 PV - PROCESS VARIABLE
 < - LOW SELECT
 S.P. - SET POINT
 □ - INTEGRATE
 f(x) - CHARACTERISTIC
 P - PROPORTIONAL CONTROL MODE
 D - DERIVATIVE
 I - INTEGRAL CONTROL MODE
 pH - HYDROGEN ION CONCENTRATION
 S/S - START/STOP
 HOA - HAND-OFF-AUTO, HAND SWITCH UNLESS NOTED ON/OFF ONLY

HAND SWITCH POSITION SYMBOLS
 (UNLABELED SWITCHES ARE ON-OFF)

A AUTOMATIC L LOCAL
 C CLOSE M MANUAL
 H HAND O OPEN OR OFF
 J JOG R REMOTE

LINE SYMBOLS



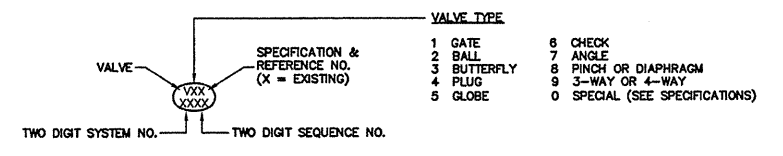
TYPICAL EQUIPMENT SYMBOLS



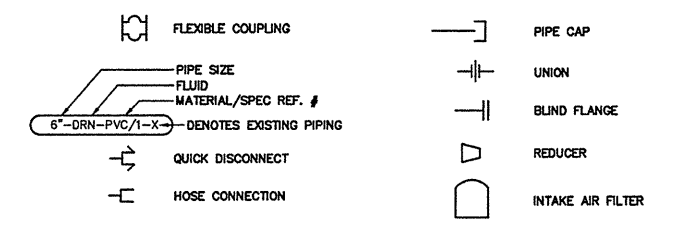
TYPICAL VALVE SYMBOLS



VALVE TAG SYMBOL



PIPING & MISCELLANEOUS SYMBOLS



FLUID DESIGNATION

AP - PROCESS AIR
 CW - CITY WATER
 FSW - FILTERED SEAWATER
 TSW - TREATED SEAWATER
 MSD - MAIN SEAWATER DRAIN

PIPE MATERIAL

CPVC - CHLORINATED POLYVINYL CHLORIDE
 FRP - FIBERGLASS REINFORCED PLASTIC
 HDPE - HIGH DENSITY POLYETHYLENE
 PVC - POLYVINYL CHLORIDE
 PVCT - PVC TUBING

VALVE AND PIPE DESIGNATIONS/ABBREVIATIONS

EQUIPMENT DESIGNATION

B - BLOWER
 CP - CONTROL PANEL
 E - GENERAL EQUIPMENT
 HX - HEAT EXCHANGER
 P - PUMP
 T - TANK
 X - EXISTING EQUIPMENT, VALVE, AND PIPING

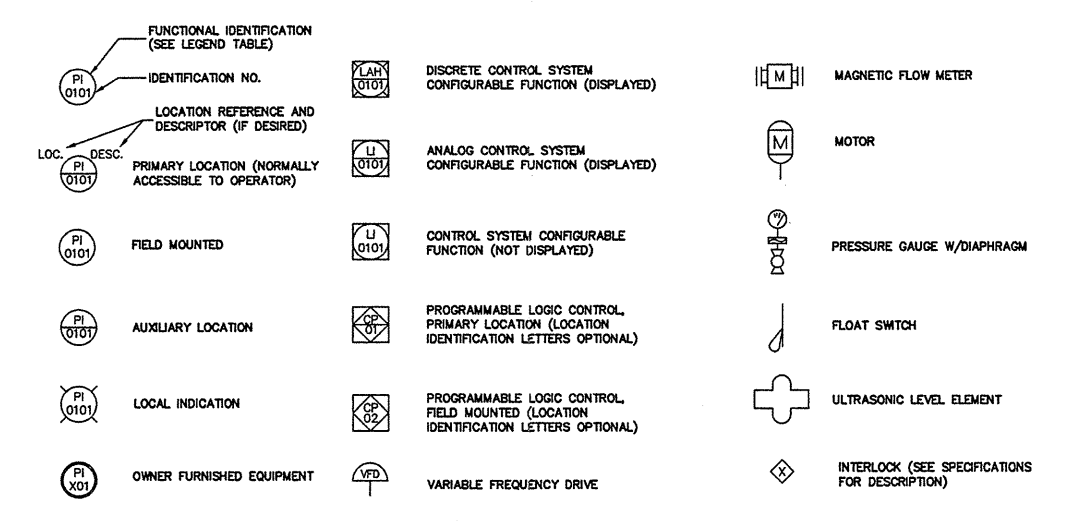
GENERAL ABBREVIATIONS

ACFM - ACTUAL CUBIC FEET PER MINUTE
 AFF - ABOVE FINISHED FLOOR
 AI - ANALOG INPUT
 ALIGN - ALIGNMENT
 AO - ANALOG OUTPUT
 BF - BLIND FLANGE
 DI - DIGITAL INPUT
 DO - DIGITAL OUTPUT
 EOC - ECCENTRIC
 E/S - EMERGENCY STOP
 EL - ELEVATION
 FF - FINISHED FLOOR
 FLG - FLANGE
 FL - FLOOR
 F/R - FORWARD/REVERSE
 FS - FLOW SWITCH
 GPD - GALLONS PER DAY
 GPH - GALLONS PER HOUR
 GPM - GALLONS PER MINUTE
 HB - HOSE BIB
 HWL - HIGH WATER LEVEL

GENERAL ABBREVIATIONS (CONT)

ICFM - INLET CUBIC FEET PER MINUTE
 INCL - INCLUDED WITH PURCHASED EQUIPMENT
 INV - INVERT
 LML - LOW WATER LEVEL/LOC - MOTOR CONTROL CENTER
 MSD - MILLION GALLONS PER DAY
 MGL - MILLIGRAMS PER LITER
 MHW - MEAN HIGH WATER
 MLW - MEAN LOW WATER
 MSL - MEAN SEA LEVEL
 NTS - NOT TO SCALE
 OL - OVERLOAD
 OC - ON CENTER
 PE - PLEIN END
 PLC - PROGRAMMABLE LOGIC CONTROLLER
 PPD - POUND PER DAY
 PISA - POUNDS PER SQUARE INCH ABSOLUTE
 PSIG - GAUGE POUNDS PER SQUARE INCH
 RED - REDUCER
 SCFM - CUBIC FEET PER MINUTE (STANDARD CONDITIONS)
 SP - SET POINT (TYPICAL)
 STBY - STANDBY
 TDH - TOTAL DYNAMIC HEAD
 TOP - TYPICAL
 UNO - UNLESS NOTED OTHERWISE
 VSP - VENDOR SUPPLIED CONTROL PANEL
 WS - WATER SURFACE
 mA - MILLIAMPERE

TYPICAL INSTRUMENTATION AND CONTROL SYMBOLS



GENERAL NOTES

- REFER TO SPECIFICATIONS FOR ADDITIONAL DETAIL REGARDING INSTRUMENTATION AND CONTROL SYSTEM REQUIREMENTS.
- REFER TO SPECIFICATIONS FOR INTERLOCK/LOOP DESCRIPTIONS.

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PROCESS AND INSTRUMENTATION DIAGRAM LEGEND

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