LINES

- OPEN CHANNEL AND/OR GRAVITY FLOW
- FORWARD FLOW LINE
- ELECTRICAL LINE
- BUILDING LINE AND/OR AERATION PIPING

PIPING

- BLIND FLANGE
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- FLOOR DRAIN
- HOSE BIBB
- STRAINER
- QUICK DISCONNECT COUPLING
- BACKFLOW PREVENTOR
- HEAT TRACED PIPE
- BALL VALVE (BV)
- CHECK VALVE (CV)
- BUTTERFLY VALVE (BF)
- PLUG VALVE (PV)

ELECTRICAL

(V) ELECTRIC MOTOR
V = VARIABLE SPEED

INSTRUMENTS

- YY / XX — INSTRUMENT – LOCALLY MOUNTED
  XX – SEE NOTE 1
  YY – SEE NOTE 2
- ZZZ — INSTRUMENT – PANEL MOUNTED
  ZZZ – SEE PANEL LOCATION CODED BELOW
- INSTRUMENT – SUB – PANEL MOUNTED
- INSTRUMENT – DUAL FUNCTION
- INSTRUMENT OR PANEL EQUIP. MFR. SUPPLIED
- BW — BACKWASH
- P — PURGE W – WATER, A – AIR
- OR — SIGNAL SELECTION
- I — INTERLOCK (ARROW INDICATES INTERLOCK DIRECTED)

INSTRUMENT LEGEND

UPPER CASE LETTER	FIRST LETTER PROCESS VARIABLE	SECOND LETTER TYPE HEADING OR FUNCTION	THIRD/FOURTH LETTER FUNCTION
A	ANALYZER (NOTE 1)	ALARM	ALARM
B	BURNER FLAME	–	–
C	CONDUCTIVITY	CONTROL	CONTROLLER
D	DENSITY	–	–
E	ELECTRICAL (EMF)	ELEMENT	ELEMENT
F	FLOW	FLOW RATIO	–
G	GAGE	GLASS	GLASS
H	HAND	HAND	HAND/HIGH
I	CURRENT (ELECTRICAL)	INDICATING/ INDICATOR	–
J	POWER	–	–
K	TIME	–	–
L	LEVEL	LIGHT (PILOT)	LOW
M	MOISTURE (HUMIDITY)	–	–
N	–	–	–
O	OPERATION	ORIFICE	OPERATION
P	PRESSURE/VACUUM	PRESSURE	–
Q	INTEGRATION	QUANTITY TOTAL	QUANTITY
R	RADIOACTIVITY	RECORDING/ RECORDER	RECORDER
S	SPEED/STOP	SWITCH	SWITCH
T	TEMPERATURE	TRANSMITTER	TRANSMITTER
U	MULTIFUNCTION	–	–
V	VISCOSITY	VALVE/DAMPER/ LOUVER	VALVE
W	WEIGHT	WELL	–
X	TORQUE	BLANK	–
Y	–	RELAY (NOTE 2)	RELAY
Z	POSITION	DRIVE	–

NOTE:

1. THE FOLLOWING ABBREVIATIONS FOR ANALYSIS, READING OR FUNCTION DESCRIPTIONS ARE TO BE PLACED OUTSIDE THE LOWER RIGHT QUADRANT OF THE BALLOON SYMBOL.

ABBREVIATION	DESCRIPTIONS
NH_3	AMMONIA
Cal	CALIBRATION
CL_2	CHLORINE
Cond	CONDUCTIVITY
DO	DISSOLVED OXYGEN
ORP	OXIDATION REDUCTION POTENTIAL
OP	ORTHOPHOSPHATES
pH	ACID/ALKALINE SCALE LOG
TOC	TOTAL ORGANIC CARBON
TQ	TORQUE
TC	TOTAL CARBON
TB	TURBIDITY
D	DENSITY

2. TYPICAL SYMBOLS FOR INPUT/OUTPUT SIGNAL SEQUENCES ARE TO BE PLACED OUTSIDE THE UPPER RIGHT QUADRANT OF THE BALLOON SYMBOL.

ABBREVIATION	DESCRIPTIONS
A	ANALOG
D	DIGITAL
E	VOLTAGE
H	HYDRAULIC
I	CURRENT (ELECTRICAL)
O	ELECTROMAGNETIC OR SONIC
P	PNUEMATIC
R	RESISTANCE (ELECTRICAL)
±	ADDER – SUBTRACTOR
√	SQUARE ROOT EXTRACTOR

3. INSTRUMENT DESIGNATIONS SHOWN ON FLOW DIAGRAMS REPRESENT INSTRUMENT FUNCTION, NOT INSTRUMENT HARDWARE.
4. ALL INSTRUMENT IDENTIFICATIONS ARE BASED UPON "INSTRUMENT SOCIETY OF AMERICA STANDARDS. FOR FURTHER INFORMATION REFER TO ISA STANDARD.

PUMPS

- DIAPHRAGM METERING PUMP
- PROGESSIVE CAVITY PUMP
- SCREW PUMPS
- SUBMERSIBLE PUMP, SV = VARIABLE SPEED
- CENTRIFUGAL PUMP

SPECIAL EQUIPMENT

- MIXER, S = SUBMERSIBLE
- SHAFTLESS SCREW
- GAS MIXING GUN
- HYDRAULIC GATE

FLOW ELEMENTS

- FLUME
- 24 — MAGNETIC FLOW METER

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