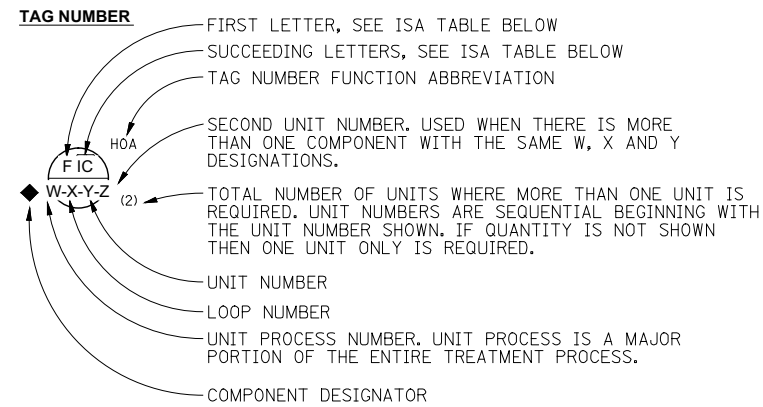


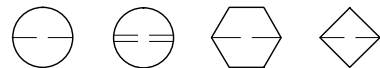
**INSTRUMENT IDENTIFICATION**



**EXAMPLE SYMBOLS**

|  | CONTROL PANEL MOUNTED ACCESSIBLE TO OPERATOR | FIELD MOUNTED | MCC/MOTOR STARTER MOUNTED NORMALLY ACCESSIBLE TO OPERATOR |
|--|--|---------------|---|
| DISCRETE INSTRUMENTS                   |  |               |   |
| MICROPROCESSOR BASED SHARED INSTRUMENT |  |               |   |
| COMPUTER FUNCTION                      |  | NONE          | NONE  |

INACCESSIBLE OR BEHIND-THE-PANEL DEVICES OR FUNCTIONS MAY BE DEPICTED BY USING THE SAME SYMBOLS BUT WITH DASHED HORIZONTAL BARS, I.E.



**INSTRUMENT SOCIETY OF AMERICA TABLE**

| LETTER | FIRST LETTER (S)               |                     | SUCCEEDING LETTERS          |  |                   |
|--------|--------------------------------|---------------------|-----------------------------|--|-------------------|
|        | PROCESS OR INITIATING VARIABLE | MODIFIER            | READOUT OR PASSIVE FUNCTION | OUTPUT FUNCTION                                      | MODIFIER          |
| A      | ANALYSIS (+)                   |                     | ALARM                       |  |                   |
| B      | BURNER COMBUSTION              |                     | USERS CHOICE (+)            | CLOSE, STOP, DECREASE                                | USERS CHOICE (+)  |
| C      | USERS CHOICE (+)               |                     |                             | CONTROL  | CLOSED            |
| D      | USERS CHOICE (+)               | DIFFERENTIAL        |                             | OPEN, START, INCREASE                                |                   |
| E      | VOLTAGE                        |                     | PRIMARY ELEMENT             |  |                   |
| F      | FLOW RATE, FIRE                |                     |                             |  |                   |
| G      | USERS CHOICE (+)               |                     | GLASS                       |  | FAIL              |
| H      | HAND (MANUAL)                  |                     |                             |  | HIGH (OPEN)       |
| I      | CURRENT                        |                     | INDICATE                    |  | INTERMEDIATE      |
| J      | POWER                          | SCAN                |                             |  |                   |
| K      | TIME OR SCHEDULE               | TIME RATE OF CHANGE |                             | CONTROL STATION                                      |                   |
| L      | LEVEL                          |                     | LIGHT (PILOT)               |  | LOW (CLOSED)      |
| M      | MOTOR, MOISTURE                | MOMENTARY           |                             |  | MIDDLE            |
| N      | USERS CHOICE (+)               |                     | USERS CHOICE (+)            | USERS CHOICE (+)                                     | ON                |
| O      | USERS CHOICE (+)               |                     | ORIFICE                     |  | OPENED            |
| P      | PRESSURE OR VACUUM             |                     | POINT (TEST CONNECTION)     |  |                   |
| Q      | QUANTITY                       | INTEGRATE           |                             |  |                   |
| R      | RADIOACTIVITY                  |                     | RECORD OR PRINT             |  |                   |
| S      | SPEED OR FREQUENCY             | SAFETY              |                             | SWITCH   |                   |
| T      | TEMPERATURE                    |                     |                             | TRANSMIT   |                   |
| U      | MULTIVARIABLE (+)              |                     | MULTIFUNCTION (+)           | MULTIFUNCTION (+)                                    | MULTIFUNCTION (+) |
| V      | VIBRATION                      |                     |                             | VALVE  |                   |
| W      | WEIGHT OR FORCE                |                     | WELL                        |  |                   |
| X      | UNCLASSIFIED (+)               | X AXIS              | UNCLASSIFIED (+)            | UNCLASSIFIED (+)                                     | UNCLASSIFIED (+)  |
| Y      | EVENT, STATE, OR PRESSURE      | Y AXIS              |                             | RELAY OR COMPUTE (+)                                 |                   |
| Z      | POSITION, DIMENSION            | Z AXIS              |                             | DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT |                   |

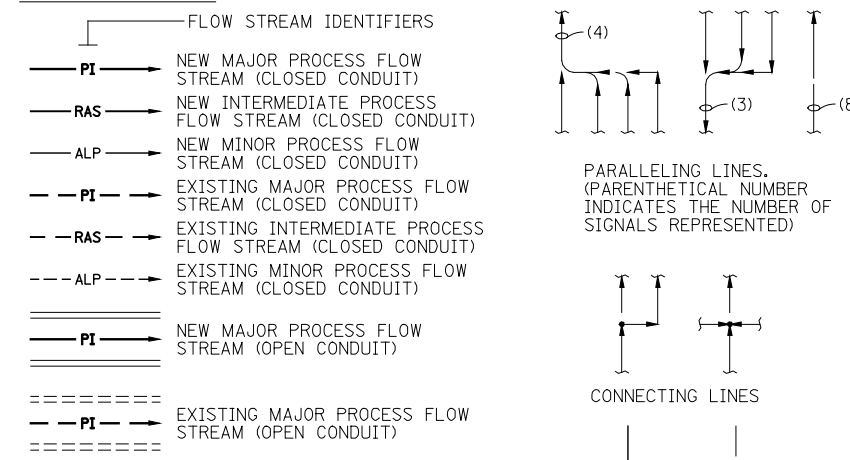
(+) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL.

SPECIAL CASES:  
ELAPSED TIME METER

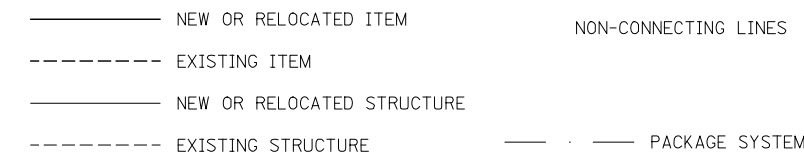
**TAG NUMBER FUNCTION ABBREVIATIONS**

|      |  |
|------|--|
| ALT  | ALTERNATE  |
| C    | CLOSE(D)   |
| CM   | COMPUTER-MANUAL  |
| DIFF | DIFFERENCE OR DIFFERENTIAL                                       |
| DO   | DISSOLVED OXYGEN   |
| F    | FAIL   |
| F(X) | CHARACTERIZED  |
| FOR  | FORWARD-STOP-REVERSE (MAINTAINED CONTACT)                        |
| FSR  | FORWARD-STOP-REVERSE (MOMENTARY CONTACT)                         |
| HOA  | HAND-OFF-AUTOMATIC (MAINTAINED CONTACT)                          |
| II   | CURRENT-TO-CURRENT   |
| IP   | CURRENT-TO-PNEUMATIC   |
| LL   | LEAD-LAG (MAINTAINED CONTACT)                                    |
| LOR  | LOCAL-OFF-REMOTE (MAINTAINED CONTACT)                            |
| LOS  | LOCKOUT STOP (LOCKABLE IN "STOP" POSITION, MOMENTARY CONTACT)    |
| LR   | LOCAL-REMOTE (MAINTAINED CONTACT)                                |
| MA   | MANUAL-AUTOMATIC (MAINTAINED CONTACT)                            |
| MOA  | MANUAL-OFF-AUTOMATIC (MAINTAINED CONTACT)                        |
| O    | OPEN   |
| OA   | OFF-AUTOMATIC  |
| OAC  | OPEN-AUTOMATIC-CLOSE (MAINTAINED CONTACT)                        |
| OC   | OPEN-CLOSE(D) (MAINTAINED CONTACT)                               |
| OSC  | OPEN-STOP-CLOSE (MOMENTARY CONTACT)                              |
| OS   | SPRING RETURN TO CENTER POSITION                                 |
| OO   | ON-OFF (MAINTAINED CONTACT)                                      |
| OOA  | ON-OFF-AUTOMATIC (MAINTAINED CONTACT)                            |
| OOR  | ON-OFF-REMOTE (MAINTAINED CONTACT)                               |
| R    | RUN  |
| S    | STOP   |
| SP   | SPEED POT  |
| SQRT | SQUARE ROOT  |
| SS   | START-STOP (MOMENTARY CONTACT)                                   |
| SSA  | START-STOP-AUTOMATIC (MOMENTARY CONTACT)                         |
| SSL  | START-STOP-LOCK (LOCKABLE IN "STOP" POSITION, MOMENTARY CONTACT) |
| SUM  | SUMMATION  |
| VIB  | VIBRATION  |
| X    | MULTIPLY   |

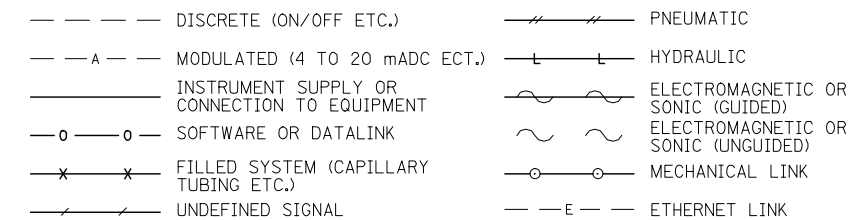
**PROCESS FLOW**



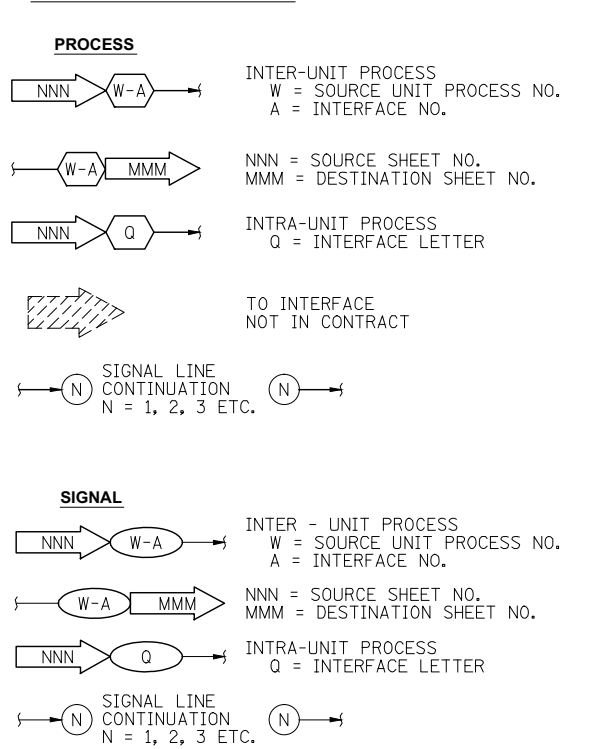
**STRUCTURES AND EQUIPMENT**



**SIGNALS**

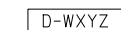


**INTERFACE SYMBOLS**



**EQUIPMENT AND SELF ACTUATED VALVE IDENTIFICATION**

**TAG NUMBER**



\*\*

D: INSTRUMENTATION TAG, EQUIPMENT OR SELF CONTAINED VALVE ABBREVIATION

W: UNIT PROCESS NUMBER

X: LOOP NUMBER

Y: UNIT NUMBER

\*\* COMPONENT DESIGNATOR

**EQUIPMENT ABBREVIATIONS**

|   |                      |
|---|----------------------|
| E | EJECTOR              |
| G | GATE                 |
| M | MECHANICAL EQUIPMENT |
| P | PUMP                 |
| T | TANK                 |

**SELF CONTAINED VALVE ABBREVIATIONS**

|      |                                |
|------|--------------------------------|
| ARV  | AIR RELEASE VALVE              |
| AVRV | AIR AND VACUUM RELEASE VALVE   |
| LCV  | LEVEL CONTROL VALVE            |
| PCV  | PRESSURE CONTROL VALVE         |
| PSV  | PRESSURE SAFETY (RELIEF) VALVE |
| TCV  | TEMPERATURE CONTROL VALVE      |

**COMPONENT DESIGNATORS**

- CRITICAL ALARM
- ◆ PROVIDE IN ACCORDANCE WITH SECTION 16900
- ◆◆ EXISTING COMPONENT TO BE RELOCATED IN ACCORDANCE WITH SECTION 16900
- ◆◆◆ OWNER FURNISHED COMPONENT TO BE INSTALLED IN ACCORDANCE WITH SECTION 16900
- \* OWNER FURNISHED COMPONENT TO BE INSTALLED IN ACCORDANCE WITH DIVISION 11 AND DIVISION 15
- \*\* PROVIDE AS PART OF A MANUFACTURER'S OR VENDOR'S PACKAGED SYSTEM IN ACCORDANCE WITH DIVISION 11, DIVISION 13 AND DIVISION 15
- \*\*\* EXISTING COMPONENT TO BE RELOCATED IN ACCORDANCE WITH DIVISION 11 AND DIVISION 15

PROVIDE COMPONENT WITHOUT A DESIGNATOR IN ACCORDANCE WITH DIVISION 11, DIVISION 13 AND DIVISION 15

**POWER OPERATED VALVE IDENTIFICATION**

SAME AS INSTRUMENT IDENTIFICATION.

**ELECTRICAL PANEL/ CONTROL STATION IDENTIFICATION**

**TAG NUMBER:** (LCP-P) ◆  
LCP PANEL DESIGNATION  
P PANEL NUMBER  
◆ COMPONENT DESIGNATOR

**GENERAL NOTES:**

1. THIS IS A STANDARD LEGEND. NOT ALL OF THE INFORMATION SHOWN ON THIS LEGEND IS USED IN THESE CONTRACT DRAWINGS.
2. CROSS-HATCHED PORTIONS OF P&ID'S  
  
INDICATE FUTURE OR CONCURRENT WORK WHICH IS NOT A PART OF THIS CONTRACT.
3. THERE IS NO INTENT TO SHOW ALL EXISTING FACILITIES ON THE P&ID'S.

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