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## 1 INTEGRATED INSTRUMENT INDEX DATA BROWSER

### 1.1 Copy Selected Data to Instrument Index Data Table

About 80 fields from each specification form are automatically copied to the Excel **Instrument Index Data** table, whenever a specification document is saved. The Instrument Index Data table has one record for each specification document number and that record will be updated with the latest data at each saving of the document. This tabular data presentation can be instrumental in review for inconsistencies between multiple forms, partial status of the form’s data entry or as an index to identify data related to a tag or functional identification.

* Notes: See Quick Start Tour document, paragraph 8.6 *Integrated Instrument Index Data Browser* for step-by- step usage.
* Note: Data changes made in the Instrument Index Data table are NOT propagated to the Specification Form documents. Therefore, any changes identified by review of the index table must be corrected on the individual document, which when saved will update the Instrument Index Data file.

### 1.2 Selected Specification Form Data Subset

While specification forms are created as individual files, they generally are reviewed, approved, and packaged together for multiple different information exchanges. Our integrated Instrument Index Data browser is automatically populated when document files are saved, with over 80 fields of data, which only adds 1-2 seconds to the saving time.

* Note: See Annex B Instrument Index Data List

To browse the Instrument Index Data for any file folder, use the *Form Loader Dashboard* by double clicking the  Desktop shortcut to activate the interface. When the integrated interface opens, scroll through the list of **Instrument Index Data** files, and click the window row for the Excel® spreadsheet of interests. The selected file will be highlighted while it is loading.



* Note: The *Form Loader Dashboard* interface includes a reminder that several Custom Views are available if the user opens the spreadsheet dropdown list of configured views, or uses the View tab and Custom view tab, as shown below.



### 1.3 Browse Specification Form Data and Status

The spreadsheet opens with the last saved Custom View as its default. The data is automatically ordered by the **Tag no/Functional ID** (keywords) and indicates a calculated % complete for each field.



Each field has a dropdown sort & filter list for convenience in reviewing the list of unique values and limiting the view for review.



### 1.4 Extended Manual Data Entry Instrument Index Fields

Over 25 additional typical Instrument Index Fields, related to the specification form’s tagged device, are provided, and can be expanded if desired. They can be easily accessed by selecting the “Manual Data Entry” custom view. This data will **NOT** be overwritten when specification documents are revised and saved.

Several of these fields include dropdown list to assist in maintaining consistency, as identified on the third row of the header and defined below:



* See Annex B Instrument Index Data List

### 1.5 Comparing Safety Design Conditions

OSHA design requirements specifically document requiring that Device Specification design conditions exceed the Operating Parameters design conditions. The Instrument Index table (browser) allows viewing Operating Parameter data typically from page one with Device Specification design data typically from page two, in adjacent columns. This can assist in ensuring that the design criteria are appropriate for the intended process use.

To facilitate comparing such form data that generally occur pages apart, the Comparing Design Conditions custom view is available. The field names with the ‘PC” prefix are those of the device’s Performance Characteristics section.



### 1.5 Instrument Index Custom Reports for Deliverables

Although no custom reports are presently included, such reports can be designed to produce special listings of data, such as:

* Calibration data report
* Safety instrument report
* Document status report
* Reports filtered by Physical Model properties such as Unit number
* etc.

# ANNEX B INSTRUMENT INDEX DATA LIST

## TABLE 1 - Specification Form Integrated Data

About 82 default fields are automatically copied to an Excel **Instrument Index Data** table, whenever a specification document is saved.

|  |  |
| --- | --- |
| **Content Control Property Title** | **Data Description** |
| Document number | Specification Document number (must be unique) |
| Keywords (Tag no/Functional ID) | Document master Tag no/Functional identification |
| Component type 1 | Primary Component type name |
| Form\_rev | Specification form number and revision |
| Subject | Specification form title (document Subject description) |
| Company | Responsible Organization company identification |
| Latest revision | Document latest revision |
| Publish Date | Document publish date |
| Status | Document issue status |
| Spec Id attri1value | Specification Identifications section definable field name |
| Spec id attribute 1 value | Specification Identifications section definable field value |
| Project number | Project number |
| Sub project no | Sub project number |
| Project | Project title |
| Enterprise | Enterprise identification |
| Site | Site name |
| Area | Area identification acronym |
| Unit | Unit identification acronym |
| Admin Def attribute 1 name | Administrative Identifications section definable field bane |
| Admin Def attribute 1 value | Administrative Identifications section definable field value |
| Comments | Word/SharePoint document comment |
| Related equipment | Related equipment identification |
| Service | Service description |
| P\_ID\_Reference dwg number | P&ID or Reference drawing number |
| Upstr line\_nozzle number | Upstream line or nozzle number |
| Upstr line pipe spec | Upstream line pipe spec |
| Upstr line nom rating | Upstream line nominal rating |
| Upstr line conn type | Upstream line connection type |
| Upstr line termn style | Upstream line termination style |
| Upstr line material type | Upstream line material type |
| Primary construction material | Material of pressure containing shell component |
| Inline hazardous area cl | Inline or Local Hazardous Area Class |
| Inline hazardous Div\_Zone | Inline or Local Hazardous Area Division or Zone |
| Inline hazardous gr | Inline or Local Hazardous Area Group |
| Inline T Code | Inline or Local Hazardous Area Temperature Code |
| Criticality classification | Criticality classification |
| Signal loss failure mode | Signal loss failure mode |
| Supply loss failure mode | Supply loss failure mode |
| Design Inlet press max | Design Inlet pressure maximum value |
| Design inlet press units | Design Inlet pressure maximum value units |
| PC Max press at design temp | Performance Characteristics Max pressure at design temp |
| PC Max press at design temp units | Performance Characteristics Max pressure at design temp units |
| Design Inlet temp max | Design Inlet temperature maximum value |
| Design inlet temp units | Design Inlet temperature maximum value units |
| PC Max design temp | Performance Characteristics Max design temp |
| PC Max design temp units | Performance Characteristics Max design temp units |
| Inlet temp min cond | Inlet temperature minimum flow condition |
| Inlet temp max cond | Inlet temperature max flow condition |
| Inlet temperature units | Inlet temperature units |
| PC Min working temp | Performance Characteristics Min working temperature |
| PC Min working temp units | Performance Characteristics Min working temperature units |
| PC Max working temp | Performance Characteristics Max working temperature |
| PC Max working temp units | Performance Characteristics Max working temperature units |
| Minimum ambient temp | Minimum ambient working temperature |
| Minimum ambient temp units | Minimum ambient working temperature units |
| PC Min ambient working temp | Performance Characteristics Min ambient working temperature |
| PC Min ambient working temp units | Performance Characteristics Min ambient working temperature units |
| Maximum ambient temp | Maximum ambient working temperature |
| Maximum ambient temp units | Maximum ambient working temperature units |
| PC Max ambient working temp | Performance Characteristics Max ambient working temperature |
| PC Max ambient working temp units | Performance Characteristics Max ambient working temperature units |
| Material name | Process Material name |
| GHS health hazard | GHS Health Hazard |
| Signal power source | Identification of the signal power range required for the device |
| Digital communication std | Identification of the primary digital communication standard |
| Compliance standard | Compliance standard |
| Component Manufacturer 1 | Primary Component Manufacturer name |
| Component Model number 1 | Primary Component Model number |
| Estimated weight | Estimated weight |
| Estimated weight units | Estimated weight units |
| Prim Tag no Input\_Output | Tag number or functional identification of the primary input or output signal |
| Prim\_CAL\_Input\_Output Desc | Primary Calibration Input-Output Description |
| Prim\_CAL\_Input\_LRV | Primary Calibration Input LRV |
| Prim\_CAL\_Input\_LRV units | Primary Calibration Input LRV units |
| Prim\_CAL\_Action | Primary Calibration Action |
| Prim\_CAL\_Output LRV | Primary Calibration Output LRV |
| Prim\_CAL\_Output LRV units | Primary Calibration Output LRV units |
| Prim\_CAL\_Output URV | Primary Calibration Output URV |
| Prim\_CAL\_Output URV units | Primary Calibration Output URV units |
| Test pressure Input URV | Test pressure value |
| Test pressure Input URV units | Test pressure units |
| File Name | Document full path or file name |

* Note: Any additional Content Control property titles can be added to the Excel file columns and subsequent document savings will copy such additional data to the modified Instrument Index Data table.

## TABLE 2 - Manual Data Entry Properties of Instrument Index Data Table

About 28 additional manual data entry properties can be managed in the **Instrument Index Data** table:

|  |  |
| --- | --- |
| **Extended Index Property Title** | **Data Description** |
| Loop name | Identifying parent name common to all members of the loop |
| Sequence order | Loop sequence order of individual member of a loop |
| Loop diagram | Loop diagram drawing |
| Alternate tag ID | Alternate identification of a device such as assigned by package equipment manufacturer, electrical interface equipment number or of a renamed device |
| Supply status | Identify organization responsible to supply of device such as instrumentation. piping, electrical, packaged equipment, etc. |
| Instrument status | Identification of the device status such as existing, new, spare, abandoned in place, to-be-removed, etc. |
| Instrument location | Relative location such as field, local panel, remote panel, I/O building, etc. |
| Location drawing | Drawing number showing the device relative location |
| Piping isometric | Drawing number showing the device location within a piping isometric |
| Instrument system | Abbreviation for the digital system which the device signal is connected to, such as DCS, PLC, ANALYZER, ESD, etc. |
| Associated I/O type | Associated digital system I/O component such as AI. AO, DI. DO, HART®, etc. |
| Associated I/O location | Location of associated I/O component such as building number, cabinet/rack number, panel number, etc. |
| Interlock Logic number | Name/number common to all members of the interlock |
| Process data owner | Organization responsible for providing process data such as Process, Mechanical, Vessel, Electrical or packaged equipment |
| Specification package | Specification package ID |
| Turnover System | Identification of the data packaging for transfer to the owner |
| Process data required | Required date for process data specifications |
| Requisition required | Required date for issuing specification requisition |
| Required on site | Required date for receiving device on site |
| Air/Purge connection | Air/Purge connection detail drawing |
| Electrical/Signal connection | Electrical/Signal connection detail drawing |
| Environmental protection | Environmental protection detail drawing |
| Junction Box | Junction Box detail drawing |
| Process connection | Process connection detail drawing |
| Support/Mounting | Support/Mounting detail drawing |
| Requires power supply | Identifies devices that require power independent of their signal wiring. |
| P&ID status | Identification of P&ID activity such as future work, work on hold, pending deletion or pending scope change |
| P&ID Checked By | Initials of individual who checked the P&ID and Index data for completeness and consistency |

* Note: Any additional manual entry property titles can be added to the Excel file columns.

## TABLE 3 - Manual Entry Instrument Index Property Dropdown List

|  |
| --- |
| **Supply status** |
| By electrical | Furnished by electrical discipline |
| By instrument | Furnished by instrument discipline |
| By mechanical | Furnished by instrument discipline |
| By vessel | Furnished by vessel discipline |
| By others | Furnished by vessel discipline |
| NA | Not applicable |
| **Instrument status** |
| By instrumentation | New instrument by instrumentation |
| By others | Furnished by others |
| NA | Not applicable |
| Relocate | Existing device to be relocated |
| Reuse in place | Existing device to be reused in place |
| Vendor package | New instrument in packed equipment |
| **Instrument location** |
| Actuator | Mounted on actuator |
| External mount | Mounted external to a vessel (bridle) |
| Main panel | Located on the front of a panel |
| Sec panel | Mounted front of secondary panel |
| Close coupled | Close coupled element or gauge |
| Non-process | Field located without process connections |
| Equipment | Directly inserted in or on equipment |
| In line | Directly inserted inline |
| In vessel | Located in vessel/connection |
| Shelter | Located in a local instrument shelter |
| Local panel | Visible on front of panel |
| MCC | Motor control center |
| NA | Not applicable |
| On line | Mounted on line (non-intrusive) |
| Rear panel | Mounted rear of main panel |
| Rear sec panel | Mounted rear of secondary panel |
| Remote | Remote transmitter from primary element |
| SIS | Safety Instrumented System |
| Shared control | Integral to instrument system shared control |
| Video display | Integral to instrument system shared display |
| **Instrument system** |
| ACS | Analyzer Control System |
| AS | Alarm System (panel) |
| BMS | Burner Management System |
| BPCS | Basic Process Control System |
| CCS | Computer Control System |
| CEMS | Continuous Emissions Monitoring System |
| DCS | Distributed Control System |
| ECS | Electronic Control System |
| FGS | Fire & Gas System |
| LOCAL | Self-contained instrument or loop |
| MCS | Machinery Control System |
| NA | Not applicable |
| PLC | Programmable Logic System |
| **Associated I/O type** |
| AI | Analog input |
| AO | Analog output |
| DI | Discrete input |
| DO | Discrete output |
| FF | FOUNDATION fieldbus |
| Profibus-DP | Profibus-DP fieldbus |
| Profibus-PA | Profibus-PA fieldbus |
| FI | Frequency input |
| FO | Frequency output |
| HART AI | HART AI |
| HART AO | Hart AO |
| NA | Not applicable |
| RTD | RTD element |
| SERIAL | Serial communication |
| TC | Thermocouple element |
| **Process data owner** |
| Instrumentation | Instrumentation department |
| Line list | Line classification list |
| Mechanical | Mechanical engineering department |
| NA | Not applicable |
| Package vendor | Packaged equipment vendor |
| Process data sheet | Process design department |
| Vessel | Vessel design department |
| **P&ID status** |
| Approved | Drawing revision approved |
| Future work | Drawing revision future work |
| Hold work | Drawing revision work on hold |
| NA | Not applicable |
| Pending change | Drawing revision pending change |
| Pending deletion | Drawing revision pending deletion |
| Pending scope change | Drawing revision pending scope change |

## TABLE 4 - Custom Views of Instrument Index Data Table

Seven basic custom views of the Instrument Index Data are provided and can be added to and configured:

|  |
| --- |
| All Data Entry |
| Calibration Data |
| Compare Design Conditions |
| Device Specification only |
| Manual Data Entry |
| Operating Parameters Only |
| Physical Model Data |

* Note: Any additional Custom View can be added to the Excel file columns.