

Configuration Data Sheet

00806-0100-4010, Rev FA

August 2012

DP Flow CDS

DP Flow Configuration Data Sheet

All sections are required on this form.

★ = Default Value

Select only one of the items provided

One or more of the listed items can be selected

| Customer Information | | | |
|--|---|---|---|
| Customer: _____ | | Contact Name: _____ | |
| P.O./Reference No: _____ | | Fax No./Email: _____ | |
| Phone No.: _____ | | P.O. Line Item: _____ | |
| Model No. _____ | | | |
| Customer Signoff: _____ | | | |
| Tagging | | | |
| Hardware Tag: _____ | | | |
| Service: _____ | | | |
| Instrument Selection | | | |
| Select DP Instrument and complete appropriate additional information. | | | |
| <p>Annubar®:</p> <p>3051SFA</p> <p><input type="radio"/> Fully Compensated</p> <p><input type="radio"/> Pressure Compensated</p> <p><input type="radio"/> Temperature Compensated</p> <p><input type="radio"/> DP Compensated⁽¹⁾</p> <p><input type="radio"/> DP Only</p> <p><input type="radio"/> 3095MFA</p> <p><input type="radio"/> 3051CFA</p> <p><input type="radio"/> 2051CFA</p> <p><input type="radio"/> 485</p> <p><input type="radio"/> 585</p> <p><i>Additional Information</i></p> <p>Sensor Size (if known): _____</p> <p>Connection Type: For 3051SFA, 3095MFA, 3051CFA, 2051CFA, 485</p> <p><input type="radio"/> Pak-Lok</p> <p><input type="radio"/> Flange w/ Opposite Side Support</p> <p>Flange Rating: _____</p> <p><input type="radio"/> Flange-Lok</p> <p>Flange Rating: _____</p> <p>Gear Drive Flo-Tap:</p> <p><input type="radio"/> Threaded</p> <p><input type="radio"/> Flanged</p> <p>Flange Rating: _____</p> <p>Manual Drive Flo-Tap:</p> <p><input type="radio"/> Threaded</p> <p><input type="radio"/> Flanged</p> <p>Flange Rating: _____</p> <p>For 585</p> <p><input type="radio"/> Flange w/ Opposite Side Support</p> <p>Flange Rating: _____</p> <p><input type="radio"/> Gear Drive Flo-Tap</p> <p>Flange Rating: _____</p> <p><input type="radio"/> Main Steam Annubar w/ Opposite Side Support</p> | <p>Compact:</p> <p>3051SFC</p> <p><input type="radio"/> Fully Compensated</p> <p><input type="radio"/> Pressure Compensated</p> <p><input type="radio"/> Temperature Compensated</p> <p><input type="radio"/> DP Compensated⁽¹⁾</p> <p><input type="radio"/> DP Only</p> <p><input type="radio"/> 3095MFC</p> <p><input type="radio"/> 3051CFC</p> <p><input type="radio"/> 2051CFC</p> <p><input type="radio"/> 405</p> <p><i>Additional Information</i></p> <p>Primary Element Technology:</p> <p><input type="radio"/> Conditioning (405C)</p> <p><input type="radio"/> Standard (405P)</p> <p>Beta Ratio (if known): _____</p> <p><input type="radio"/> Compact Annubar (405A)</p> | <p>Integral Orifice:</p> <p>3051SFP</p> <p><input type="radio"/> Fully Compensated</p> <p><input type="radio"/> Pressure Compensated</p> <p><input type="radio"/> Temperature Compensated</p> <p><input type="radio"/> DP Compensated⁽¹⁾</p> <p><input type="radio"/> DP Only</p> <p><input type="radio"/> 3095MFP</p> <p><input type="radio"/> 3051CFP</p> <p><input type="radio"/> 2051CFP</p> <p><input type="radio"/> 1195</p> <p><i>Additional Information</i></p> <p>Bore Size (if known): _____</p> <p>Connection Type: Pipe Ends</p> <p><input type="radio"/> Flanged</p> <p>Flange Rating: _____</p> <p><input type="radio"/> Beveled</p> <p><input type="radio"/> Threaded</p> <p>Body Only</p> <p><input type="radio"/> Threaded</p> <p><input type="radio"/> Socket-Weld</p> | <p>Orifice Plates:</p> <p><input type="radio"/> 1595 Conditioning Plate</p> <p><input type="radio"/> 1495 Standard Plate</p> <p>Concentric Square Edged</p> <p><input type="radio"/> ISO 5167-2 2003</p> <p><input type="radio"/> AGA Report #3 2003</p> <p><input type="radio"/> ASME MFC 3M 2004</p> <p><input type="radio"/> Drain/Vent (ISO TR 15377)</p> <p><input type="radio"/> Restriction Orifice</p> <p><input type="radio"/> Alt. Bore</p> <p>Type: _____</p> <p><i>Additional Information</i></p> <p>Bore Size (if known): _____</p> <p>or</p> <p>Beta Ratio (if known): _____</p> <p>Plate Type:</p> <p><input type="radio"/> Paddle★</p> <p><input type="radio"/> Paddle – Spiral Wound (1495 only)</p> <p><input type="radio"/> Universal for RTJ Type Flange</p> <p><input type="checkbox"/> With Plate Holder</p> <p>Tap Type:</p> <p><input type="radio"/> Flange</p> <p><input type="radio"/> Corner</p> <p><input type="radio"/> Pipe – D & D/2</p> <p>Flange Rating: _____</p> |
| <input type="radio"/> Non-Rosemount Primary Element: _____ | | | |
| <i>Note: Please submit Primary Element Manufacturer's Calculation Data Sheet.</i> | | | |

(1) Compensates for varying discharge coefficient and gas expansion factor based on Reynold's Number, assuming a fixed pressure and temperature.

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| Fluid Selection | | | |
|------------------------------|---|--|---|
| Steam: | <input type="radio"/> Superheated | <input type="radio"/> Saturated - Pressure Based | <input type="radio"/> Saturated - Temperature Based |
| Liquid: | <input type="radio"/> Water <input type="radio"/> Ammonia | <input type="radio"/> Methanol <input type="radio"/> Other Database Liquid _____ (see page 4) | <input type="radio"/> Ethanol |
| Gas: | <input type="radio"/> Air <input type="radio"/> Oxygen | <input type="radio"/> Nitrogen <input type="radio"/> Other Database Gas _____ (see page 4) | <input type="radio"/> Hydrogen |
| Natural Gas: | <input type="radio"/> Please complete Natural Gas Data Sheet (document number 00806-0300-4803) or submit gas analysis report. | | |
| Custom ⁽¹⁾ : | Name _____ | | |
| | Specific Gravity / Molecular Weight _____ | Viscosity _____ | |
| <input type="radio"/> Gas | Density / Compressibility @ Flowing Conditions _____ | @ Base Conditions _____ | |
| | Isentropic exponent _____ | | |
| <input type="radio"/> Liquid | Density @ Flowing Conditions _____ | @ Base Conditions _____ | |
| | Vapor Pressure _____ | | |

(1) Please provide data at normal flowing conditions. For MultiVariable flowmeter configuration, a Custom Gas Data Sheet (document number 00806-0200-4716) or a Custom Liquid Data Sheet (document number 00806-0300-4716) is required.

| Application Data | | | | | | | | | | |
|---|--|-----------------|------------------------------|--|--|---|---|---|--|---|
| Line Size: _____ <input type="radio"/> in. <input type="radio"/> mm Sch: _____ OR Pipe I.D. _____ <input type="radio"/> in. <input type="radio"/> mm Wall Thickness _____ <input type="radio"/> in. <input type="radio"/> mm | <p>For Duct Mount Only</p> <table border="0"> <tr> <td><u>Circular</u></td> <td><u>Square or Rectangular</u></td> <td rowspan="4"> </td> </tr> <tr> <td>Duct ID _____ <input type="radio"/> in. <input type="radio"/> mm</td> <td>Duct Span⁽¹⁾ _____ <input type="radio"/> in. <input type="radio"/> mm</td> </tr> <tr> <td>Wall Thickness _____ <input type="radio"/> in. <input type="radio"/> mm</td> <td>Duct Width _____ <input type="radio"/> in. <input type="radio"/> mm</td> </tr> <tr> <td></td> <td>Wall Thickness _____ <input type="radio"/> in. <input type="radio"/> mm</td> </tr> </table> | <u>Circular</u> | <u>Square or Rectangular</u> | | Duct ID _____ <input type="radio"/> in. <input type="radio"/> mm | Duct Span ⁽¹⁾ _____ <input type="radio"/> in. <input type="radio"/> mm | Wall Thickness _____ <input type="radio"/> in. <input type="radio"/> mm | Duct Width _____ <input type="radio"/> in. <input type="radio"/> mm | | Wall Thickness _____ <input type="radio"/> in. <input type="radio"/> mm |
| <u>Circular</u> | <u>Square or Rectangular</u> | | | | | | | | | |
| Duct ID _____ <input type="radio"/> in. <input type="radio"/> mm | Duct Span ⁽¹⁾ _____ <input type="radio"/> in. <input type="radio"/> mm | | | | | | | | | |
| Wall Thickness _____ <input type="radio"/> in. <input type="radio"/> mm | Duct Width _____ <input type="radio"/> in. <input type="radio"/> mm | | | | | | | | | |
| | Wall Thickness _____ <input type="radio"/> in. <input type="radio"/> mm | | | | | | | | | |
| Primary Element Material: _____ (316 SST*) | Pipe/duct Material: _____ (CS*) | | | | | | | | | |
| Pipe Orientation: | <input type="radio"/> Horizontal* <input type="radio"/> Vertical - Flow Up <input type="radio"/> Vertical - Flow Down | | | | | | | | | |

(1) Duct Span denotes the dimension that the Annubar primary element will span.

| Process Information (Gray boxes are required values) | | | | | |
|--|-------|---------|--------|---------|---------------------|
| | Units | Minimum | Normal | Maximum | Full Scale / Design |
| Flow Rate: | | | | | |
| Pressure: | | | | | |
| Process Temp: | | | | | |

Atmospheric Pressure: _____ (14.696 psia*) (used to convert gage pressure to absolute pressure or absolute pressure to gage pressure)

Base Conditions (Required only if base volumetric flow rate units are used)

| | | | |
|---------------------------------|---|--|------------------------------------|
| <input type="radio"/> Standard* | <input type="radio"/> Normal (ISO Standard) | <input type="radio"/> Standard - Natural Gas (AGA) | <input type="radio"/> User Defined |
| P = 14.696 psia/ 101.325 kPaa | P = 14.696 psia/ 101.325 kPaa | P = 14.73 psia/ 101.53 kPaa | P = _____ |
| T = 60 °F/ 15.56 °C | T = 32 °F/ 0 °C | T = 60 °F/ 15.56 °C | T = _____ °F °C |

MultiVariable Flowmeter Calibration

For MultiVariable flowmeters, please specify each sensor's Lower Trim Value (LTV) and Upper Trim Value (UTV).⁽¹⁾

| | | | |
|------------------------|------------|------------|--------------|
| Differential Pressure: | LTV= _____ | UTV= _____ | Units= _____ |
| Static Pressure: | LTV= _____ | UTV= _____ | Units= _____ |
| Process Temperature: | LTV= _____ | UTV= _____ | Units= _____ |

(1) If left blank, trim values will be determined from process conditions entered on page 2.

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| Flowmeter Configuration Defaults ⁽¹⁾ | | |
|---|--|--|
| Flowmeter Models: 3051SFA / 3051SFC / 3051SFP | | |
| 3051S MultiVariable | | 3051S Single Variable |
| Compensated Mass and Energy Flow (Measurement Type: 1-4) 4 mA = 0, 20 mA = Full Scale Flow Process Variable Assignment PV: Mass Flow 2V: Differential Pressure 3V: Static Pressure (if available) 4V: Process Temp. (if available) Protocol: HART Burst Mode: Off Write Protect: Off Alarm: High LCD: Flow, DP, P, T | Direct Process Variable (Measurement Type: 5-7) 4 mA = 0, 20 mA = URL inH ₂ O Process Variable Assignment PV: Square Root of DP 2V: Static Pressure (if available) 3V: Process Temp. (if available) 4V: Module Temp. Protocol: HART Burst Mode: Off Write Protect: Off Alarm: High LCD: DP, P, T | Differential Pressure (Measurement Type: D) 4 mA = 0, 20 mA = Full Scale Flow Process Variable Assignment PV: Scaled Variable Representing Flow 2V: Differential Pressure 3V: Module Temp. Protocol: HART Burst Mode: Off Write Protect: Off Alarm: High LCD: Flow |
| Flowmeter Models: 3051CFA / 3051CFC / 3051CFP | Flowmeter Models: 2051CFA / 2051CFC / 2051CFP | Flowmeter Models: 3095MFA / 3095MFC / 3095MFP |
| Differential Pressure 4 mA = 0, 20 mA = URL inH ₂ O Process Variable Assignment PV: Square Root of DP Protocol: HART Burst Mode: Off Write Protect: Off Alarm: High LCD: Flow | Differential Pressure 4 mA = 0, 20 mA = URL inH ₂ O Process Variable Assignment PV: Square Root of DP Protocol: HART Burst Mode: Off Write Protect: Off Alarm: High LCD: Flow | Compensated Mass Flow 4 mA = 0, 20 mA = Full Scale Flow Process Variable Assignment PV: Mass Flow 2V: Differential Pressure 3V: Static Pressure 4V: Process Temp. Protocol: HART Burst Mode: Off Write Protect: Off Alarm: High LCD: Flow |

(1) If device settings other than default are required, please complete the appropriate Configuration Data Sheet: 00806-0100-4801 for 3051S, 00806-0100-4803 for 3051SMV, 00806-0100-4001 for 3051C, 00806-0100-4101 for 2051C, and 00806-0100-4716 for 3095.

DP Flow CDS

| Fluid Database List | | | | |
|--|--|---|---|---|
| <input type="radio"/> 1~1~2~2-TETRAFLUORO-ETHANE | <input type="radio"/> 2-METHYL-1-PENTENE | <input type="radio"/> ETHANE | <input type="radio"/> METHYL ETHYL KETONE | <input type="radio"/> PROPANE |
| <input type="radio"/> 1~1~2-TRICHLOROETHANE | <input type="radio"/> ACETIC ACID | <input type="radio"/> ETHANOL | <input type="radio"/> N-BUTYRALDEHYDE | <input type="radio"/> PROPYLENE |
| <input type="radio"/> 1~2~4-TRICHLOROBENZENE | <input type="radio"/> ACETONE | <input type="radio"/> ETHYLAMINE | <input type="radio"/> METHYL VINYL ETHER | <input type="radio"/> PYRENE |
| <input type="radio"/> 1~2-BUTADIENE | <input type="radio"/> ACETONITRILE | <input type="radio"/> ETHYLBENZENE | <input type="radio"/> N-BUTANE | <input type="radio"/> STYRENE |
| <input type="radio"/> 1~3~5-TRICHLOROBENZENE | <input type="radio"/> ACETYLENE | <input type="radio"/> ETHYLENE | <input type="radio"/> N-BUTANOL | <input type="radio"/> SULFUR DIOXIDE |
| <input type="radio"/> 1~3-BUTADIENE | <input type="radio"/> ACRYLONITRILE | <input type="radio"/> ETHYLENE GLYCOL | <input type="radio"/> N-BUTYRONITRILE | <input type="radio"/> TOLUENE |
| <input type="radio"/> 1~4-DIOXANE | <input type="radio"/> AIR | <input type="radio"/> ETHYLENE OXIDE | <input type="radio"/> N-DECANE | <input type="radio"/> TRICHLOROETHYLENE |
| <input type="radio"/> 1~4-HEXADIENE | <input type="radio"/> ALLYL ALCOHOL | <input type="radio"/> FLUORENE | <input type="radio"/> N-DODECANE | <input type="radio"/> VINYL ACETATE |
| <input type="radio"/> 1-BUTENE | <input type="radio"/> AMMONIA | <input type="radio"/> FURAN | <input type="radio"/> NEON | <input type="radio"/> VINYL CHLORIDE |
| <input type="radio"/> 1-DECANAL | <input type="radio"/> ARGON | <input type="radio"/> HELIUM-4 | <input type="radio"/> NEOPENTANE | <input type="radio"/> VINYL CYCLOHEXENE |
| <input type="radio"/> 1-DECANOL | <input type="radio"/> BENZALDEHYDE | <input type="radio"/> HYDRAZINE | <input type="radio"/> N-HEPTADECANE | <input type="radio"/> WATER |
| <input type="radio"/> 1-DECENE | <input type="radio"/> BENZENE | <input type="radio"/> HYDROGEN | <input type="radio"/> N-HEPTANE | |
| <input type="radio"/> 1-DODECANOL | <input type="radio"/> BENZYL ALCOHOL | <input type="radio"/> HYDROGEN CHLORIDE | <input type="radio"/> N-HEXANE | |
| <input type="radio"/> 1-DODECENE | <input type="radio"/> BIPHENYL | <input type="radio"/> HYDROGEN CYANIDE | <input type="radio"/> NITRIC ACID | |
| <input type="radio"/> 1-HEPTANOL | <input type="radio"/> CARBON DIOXIDE | <input type="radio"/> HYDROGEN PEROXIDE | <input type="radio"/> NITRIC OXIDE | |
| <input type="radio"/> 1-HEPTENE | <input type="radio"/> CARBON MONOXIDE | <input type="radio"/> HYDROGEN SULFIDE | <input type="radio"/> NITROBENZENE | |
| <input type="radio"/> 1-HEXADECANOL | <input type="radio"/> CARBON TETRACHLORIDE | <input type="radio"/> ISOBUTANE | <input type="radio"/> NITROETHANE | |
| <input type="radio"/> 1-HEXENE | <input type="radio"/> CHLORINE | <input type="radio"/> ISOBUTENE | <input type="radio"/> NITROGEN | |
| <input type="radio"/> 1-NONANAL | <input type="radio"/> CHLOROPRENE | <input type="radio"/> ISOBUTYLBENZENE | <input type="radio"/> NITROMETHANE | |
| <input type="radio"/> 1-NONANOL | <input type="radio"/> CHLOROTRIFLUORO-ETHYLENE | <input type="radio"/> ISOPENTANE | <input type="radio"/> NITROUS OXIDE | |
| <input type="radio"/> 1-OCTANOL | <input type="radio"/> CARBON DIOXIDE | <input type="radio"/> ISOPRENE | <input type="radio"/> N-NONANE | |
| <input type="radio"/> 1-OCTENE | <input type="radio"/> CYCLOHEPTANE | <input type="radio"/> ISOPROPANOL | <input type="radio"/> N-OCTANE | |
| <input type="radio"/> 1-PENTADECANOL | <input type="radio"/> CYCLOHEXANE | <input type="radio"/> M-CHLORONITRO-BENZENE | <input type="radio"/> N-PENTANE | |
| <input type="radio"/> 1-PENTANOL | <input type="radio"/> CYCLOPENTANE | <input type="radio"/> M-DICHLORO-BENZENE | <input type="radio"/> OXYGEN | |
| <input type="radio"/> 1-PENTENE | <input type="radio"/> CYCLOPENTENE | <input type="radio"/> METHANE | <input type="radio"/> PENTAFLUOROETHANE | |
| <input type="radio"/> 1-UNDECANOL | <input type="radio"/> CYCLOPROPANE | <input type="radio"/> METHANOL | <input type="radio"/> PHENOL | |
| <input type="radio"/> 2~2-DIMETHYLBUTANE | <input type="radio"/> DIVINYL ETHER | <input type="radio"/> METHYL ACRYLATE | <input type="radio"/> PROPADIENE | |

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