

## HART Configuration Data Sheet (CDS)

### DP FLOW CDS

Complete this form to define a custom flow configuration for DP Flowmeters. Unless specified, the flowmeter will be shipped with the default values identified by the H symbol.

For technical assistance in filling out this CDS, call a Rosemount representative.

#### NOTE

Any missing information will be processed with the indicated default values.

\* = Required Item

★ = Default

#### Customer Information

Customer:	Contact Name:
Customer Phone:	Customer Fax:
Customer Approval Sign-Off:	Customer PO:

#### Calculation Approval

Check this box if a calculation for approval prior to manufacturing is required

#### Application and Configuration Data Sheet (Required with Order)

Tag: \_\_\_\_\_

Model No <sup>(1)</sup>

\* **Select fluid type**       Liquid       Gas       Steam

\* **Fluid name<sup>(2)</sup>**

#### Flowmeter Information (optional)

\* Failure Mode Alarm Direction (select one)       Alarm High★       Alarm Low

Software Tag: \_\_\_\_\_ (8 characters)

Descriptor: \_\_\_\_\_ (16 characters)

Message: \_\_\_\_\_  
 \_\_\_\_\_ (32 characters)

Date:                      Day \_\_\_ (numeric)                      Month \_\_\_ (numeric)                      Year \_\_\_ (numeric)

*(1) A complete model number is required before Rosemount Inc. can process the order.*

*(2) If the Fluid is not located in Table 35 on page 61, the "Fluid Data Sheet (FDS)" on page 65 must be completed.*

#### For Rosemount Use Only

S.O.:	LI
CHAMP:	DATE:
	ADMIN:

# The Annubar Flowmeter Series

\* = Required Item  
★ = Default

## Primary Element Information

\* Select Differential Producer (Select One)

### Annubar

- 485 Annubar/ 3095MFA Mass ProBar, 3051SFA ProBar
- 285 Annubar
- Annubar Diamond II + / Mass Probar
- Long Radius Wall Taps, ASME
- Long Radius Wall Taps, ISO
- ISA 1932, ISO

### Venturi

- Nozzle, ISO
- Rough Cast/Fabricated Inlet, ASME
- Round Cast Inlet, ISO
- Machined Inlet, ASME
- Machined Inlet, ISO
- Welded Inlet, ISO

### Other (All options require a discharge coefficient value)

- Calibrated Orifice: Flange, Corner, or D & D/2 Taps.

Discharge coefficient: \_\_\_\_\_

- Calibrated Orifice: 2<sup>1</sup>/<sub>2</sub> D & 8D Taps

Discharge coefficient: \_\_\_\_\_

- Calibrating Nozzle

Discharge coefficient: \_\_\_\_\_

- Calibrating Venturi

Discharge coefficient: \_\_\_\_\_

- Area Averaging Meter

Discharge coefficient: \_\_\_\_\_

- V-Cone®

Discharge coefficient: \_\_\_\_\_

Diameter (d) \_\_\_\_\_

### Orifice

- 3051SFP, 3095MFP, 1195
- 405C, 405P, 3051SFC, 3095MFC
- 1595 Conditioning Orifice
- 2<sup>1</sup>/<sub>2</sub>D & 8D Taps, ASME
- Corner Taps, ASME
- Corner Taps, ISO
- D & D/2 Taps, ASME
- D & D/2 Taps, ISO
- D & D/2 Taps, ISO 99 Amendment 1
- Flange Taps, AGA
- Flange Taps, ASME
- Flange Taps, ISO
- Flange Taps, ISO 99 Amendment 1
- Small Bore, Flange Taps, ASME

inch★

millimeters

at \_\_\_\_\_

°F

°C

68 °F★

ODF \_\_\_\_\_

ODT \_\_\_\_\_

Special Annubar dimension (required if customer supplies mounting hardware).

## Pipe Information

\* Orientation / Flow Direction:  Vertical Up  Vertical Down  Horizontal

\* Line Size / Schedule: \_\_\_\_\_ Body I.D. (D): \_\_\_\_\_

## Materials of Construction

\* Pipe Material  Carbon Steel  304 SST  316 SST  Hastelloy  Other \_\_\_\_\_

\* Primary Element Material  316 SST  Hastelloy  Other \_\_\_\_\_ (Please verify material availability)

## Operating Conditions

	4 mA value	Minimum	Normal	Maximum	Full Scale:20 mA flow rate (design to P and T)	Design
Flow Rate	0	*(1)	*	*		
Pressure (P)	—	*(1)	*	*(1)	*(2)	
Temperature (T)	—	*(1)	*	*(1)	*	

## RTD Mode

Normal Mode ★ (Requires a RTD to be connected. If the RTD is disconnected or fails, the 3095MV output goes to alarm value)

Fixed Temperature Mode: Specify the fixed temperature value \_\_\_\_\_  °F  °C

Backup Mode (Uses the connected RTD for temperature measurement. If the RTD is disconnected or fails, the transmitter uses a fixed temperature value as a backup. This will not cause the mA output to go to alarm value and can potentially cause inaccurate flow measurement.) Fixed temperature value to be used as backup \_\_\_\_\_  °F  °C

# Product Data Sheet

00813-0100-4809, Rev EA

Catalog 2006 - 2007

# The Annubar Flowmeter Series

\* = Required Item

★ = Default

### Base Conditions

Standard Base (P=14.696 psia / 101.325 kPa abs, T= 60 °F (15.56 °C))

Normal Base (P=14.696 psia / 101.325 kPa abs, T= 32 °F (0 °C))

Standard Base for Natural Gas (AGA) (P=14.73 psia, T= 60°F (15.56 °C))

User Defined: P= \_\_\_\_\_ Units: \_\_\_\_\_ T= \_\_\_\_\_ Units = \_\_\_\_\_

Compressibility at Base: \_\_\_\_\_ OR Density at Base: \_\_\_\_\_

(1) Operating ranges for pressure and temperature are needed for transmitter configuration.

(2) Required to verify that the product selection meets design criteria.

TABLE 35. Rosemount Fluids Database<sup>(1)</sup>

Acetic Acid	Divinyl Ether	Methane	n-Hexane	1-Heptanol
Acetone	Ethane	Methanol	n-Octane	1-Heptene
Acetonitrile	Ethanol	Methyl Acrylate	n-Pentane	1-Hexene
Acetylene	Ethylamine	Methyl Ethyl Ketone	Oxygen	1-Hexadecanol
Acrylonitrile	Ethylbenzene	Methyl Vinyl Ether	Pentafluorothane	1-Octanol
Air	Ethylene	m-Chloronitrobenzene	Phenol	1-Octene
Allyl Alcohol	Ethylene Glycol	Neon	Propadiene	1-Nonanol
Ammonia	Ethylene Oxide	Neopentane	Pyrene	1-Pentadecanol
Argon	Fluorene	Nitric Acid	Propylene	1-Pentanol
Benzene	Furan	Nitric Oxide	Styrene	1-Pentene
Benzaldehyde	Helium-4	Nitrobenzene	Sulfur Dioxide	1-Undecanol
Benzyl Alcohol	Hydrazine	m-Dichlorobenzene	Propane	1-Nonanal
Biphenyl	Hydrogen	Nitroethane	Toluene	1,2,4- Trichlorobenzene
Carbon Dioxide	Hydrogen Chloride	Nitrogen	Trichloroethylene	1,1,2- Trichloroethane
Carbon Monoxide	Hydrogen Cyanide	Nitromethane	Vinyl Acetate	1,1,2,2- Tetrafluoroethane
Carbon Tetrachloride	Hydrogen Peroxide	Nitrous Oxide	Vinyl Chloride	1,2-Butadiene
Chlorine	Hydrogen Sulfide	n-Butane	Vinyl Cyclohexane	1,3-Butadiene
Chlorotrifluoroethylene	Isobutane	n-Butanol	Water	1,3,5- Trichlorobenzene
Chloroprene	Isobutene	n-Butyraldehyde	1-Butene	1,4-Dioxane
Cycloheptane	Isobutyl benzene	n-Butyronitrile	1-Decene	1,4-Hexadiene
Cyclohexane	Isopentane	n-Decane	1-Decanal	2-Methyl-1-Pentene
Cyclopentane	Isoprene	n-Dodecane	1-Decanol	2,2-Dimethylbutane
Cyclopentene	Isopropanol	n-Heptadecane	1-Dodecene	
Cyclopropane		n-Heptane	1-Dodecanol	

(1) This list is subject to change without notice. Steam per ASME Steam tables. All other fluids per AIChE.

## Drawing/Notes

# The Annubar Flowmeter Series

## FOUNDATION fieldbus™ Configuration Data Sheet (CDS)

### DP FLOW CDS

Complete this form to define a custom flow configuration for DP Flowmeters. Unless specified, the flowmeter will be shipped with the default values identified by the H symbol.

For technical assistance in filling out this CDS, call a Rosemount representative.

#### NOTE

Any missing information will be processed with the indicated default values.

\* = Required Item

★ = Default

#### Customer Information

Customer:	Contact Name:
Customer Phone:	Customer Fax:
Customer Approval Sign-Off:	Customer PO:

#### Calculation Approval

Check this box if a calculation for approval prior to manufacturing is required

#### Application and Configuration Data Sheet (Required with Order)

Tag:

Model No <sup>(1)</sup>

\* **Select fluid type**       Liquid       Gas       Steam

\* **Fluid name<sup>(2)</sup>**

#### Flowmeter Information (optional)

\* Failure Mode Alarm Direction (select one)       Alarm High★       Alarm Low

Software Tag: \_\_\_\_\_ (16 characters)

Descriptor: \_\_\_\_\_  
 \_\_\_\_\_ (32 characters)

Message: \_\_\_\_\_  
 \_\_\_\_\_ (32 characters)

Date:                      Day \_\_\_ (numeric)                      Month \_\_\_ (numeric)                      Year \_\_\_ (numeric)

(1) A complete model number is required before Rosemount Inc. can process the order.

(2) If the Fluid is not located in Table 35 on page 61, the "Fluid Data Sheet (FDS)" on page 65 must be completed.

#### For Rosemount Use Only

S.O.:	LI
CHAMP:	DATE:
	ADMIN:

\* = Required Item  
 ★ = Default

**Primary Element Information**

\* Select Differential Producer (Select One)

**Annubar**

- 485 Annubar/ 3095MFA Mass ProBar, 3051SFA ProBar
- 285 Annubar
- Annubar Diamond II + / Mass Probar
- Long Radius Wall Taps, ASME
- Long Radius Wall Taps, ISO
- ISA 1932, ISO

**Venturi**

- Nozzle, ISO
- Rough Cast/Fabricated Inlet, ASME
- Round Cast Inlet, ISO
- Machined Inlet, ASME
- Machined Inlet, ISO
- Welded Inlet, ISO

**Other (All options require a discharge coefficient value)**

Calibrated Orifice: Flange, Corner, or D & D/2 Taps.

Discharge coefficient: \_\_\_\_\_

Calibrated Orifice: 2<sup>1</sup>/<sub>2</sub> D & 8D Taps

Discharge coefficient: \_\_\_\_\_

Calibrating Nozzle

Discharge coefficient: \_\_\_\_\_

Calibrating Venturi

Discharge coefficient: \_\_\_\_\_

Area Averaging Meter

Discharge coefficient: \_\_\_\_\_

V-Cone®

Discharge coefficient: \_\_\_\_\_

Diameter (d) \_\_\_\_\_

**Orifice**

- 3051SFP, 3095MFP, 1195
- 405C, 405P, 3051SFC, 3095MFC
- 1595 Conditioning Orifice
- 2<sup>1</sup>/<sub>2</sub>D & 8D Taps, ASME
- Corner Taps, ASME
- Corner Taps, ISO
- D & D/2 Taps, ASME
- D & D/2 Taps, ISO
- D & D/2 Taps, ISO 99 Amendment 1
- Flange Taps, AGA
- Flange Taps, ASME
- Flange Taps, ISO
- Flange Taps, ISO 99 Amendment 1
- Small Bore, Flange Taps, ASME

inch★

millimeters

at \_\_\_\_\_

°F

°C

68 °F★

Special Annubar dimension (required if customer supplies mounting hardware).

ODF \_\_\_\_\_

ODT \_\_\_\_\_

**Pipe Information**

\* Orientation / Flow Direction:  Vertical Up  Vertical Down  Horizontal

\* Line Size / Schedule: \_\_\_\_\_ Body I.D. (D): \_\_\_\_\_

**Materials of Construction**

\* Pipe Material  Carbon Steel  304 SST  316 SST  Hastelloy  Other \_\_\_\_\_

\* Primary Element Material  316 SST  Hastelloy  Other \_\_\_\_\_ (Please verify material availability)

**Operating Conditions**

	4 mA value	Minimum	Normal	Maximum	Full Scale:20 mA flow rate (design to P and T)	Design
Flow Rate	0	*(1)	*	*		
Pressure (P)	—	*(1)	*	*(1)	*(2)	
Temperature (T)	—	*(1)	*	*(1)	*	

**RTD Mode**

Normal Mode ★ (Requires a RTD to be connected. If the RTD is disconnected or fails, the 3095MV output goes to alarm value)

Fixed Temperature Mode: Specify the fixed temperature value \_\_\_\_\_  °F  °C

Backup Mode (Uses the connected RTD for temperature measurement. If the RTD is disconnected or fails, the transmitter uses a fixed temperature value as a backup. This will not cause the mA output to go to alarm value and can potentially cause inaccurate flow measurement.) Fixed temperature value to be used as backup \_\_\_\_\_  °F  °C

# The Annubar Flowmeter Series

\* = Required Item

★ = Default

## Base Conditions

Standard Base (P=14.696 psia / 101.325 kPa abs, T= 60 °F (15.56 °C))

Normal Base (P=14.696 psia / 101.325 kPa abs, T= 32 °F (0 °C))

Standard Base for Natural Gas (AGA) (P=14.73 psia, T= 60°F (15.56 °C))

User Defined: P= \_\_\_\_\_ Units: \_\_\_\_\_ T= \_\_\_\_\_ Units = \_\_\_\_\_

Compressibility at Base: \_\_\_\_\_ OR Density at Base: \_\_\_\_\_

(1) Operating ranges for pressure and temperature are needed for transmitter configuration.

(2) Required to verify that the product selection meets design criteria.

TABLE 1. Rosemount Fluids Database<sup>(1)</sup>

Acetic Acid	Divinyl Ether	Methane	n-Hexane	1-Heptanol
Acetone	Ethane	Methanol	n-Octane	1-Heptene
Acetonitrile	Ethanol	Methyl Acrylate	n-Pentane	1-Hexene
Acetylene	Ethylamine	Methyl Ethyl Ketone	Oxygen	1-Hexadecanol
Acrylonitrile	Ethylbenzene	Methyl Vinyl Ether	Pentafluorothane	1-Octanol
Air	Ethylene	m-Chloronitrobenzene	Phenol	1-Octene
Allyl Alcohol	Ethylene Glycol	Neon	Propadiene	1-Nonanol
Ammonia	Ethylene Oxide	Neopentane	Pyrene	1-Pentadecanol
Argon	Fluorene	Nitric Acid	Propylene	1-Pentanol
Benzene	Furan	Nitric Oxide	Styrene	1-Pentene
Benzaldehyde	Helium-4	Nitrobenzene	Sulfur Dioxide	1-Undecanol
Benzyl Alcohol	Hydrazine	m-Dichlorobenzene	Propane	1-Nonanal
Biphenyl	Hydrogen	Nitroethane	Toluene	1,2,4- Trichlorobenzene
Carbon Dioxide	Hydrogen Chloride	Nitrogen	Trichloroethylene	1,1,2- Trichloroethane
Carbon Monoxide	Hydrogen Cyanide	Nitromethane	Vinyl Acetate	1,1,2,2- Tetrafluoroethane
Carbon Tetrachloride	Hydrogen Peroxide	Nitrous Oxide	Vinyl Chloride	1,2-Butadiene
Chlorine	Hydrogen Sulfide	n-Butane	Vinyl Cyclohexane	1,3-Butadiene
Chlorotrifluoroethylene	Isobutane	n-Butanol	Water	1,3,5- Trichlorobenzene
Chloroprene	Isobutene	n-Butyraldehyde	1-Butene	1,4-Dioxane
Cycloheptane	Isobutyl benzene	n-Butyronitrile	1-Decene	1,4-Hexadiene
Cyclohexane	Isopentane	n-Decane	1-Decanal	2-Methyl-1-Pentene
Cyclopentane	Isoprene	n-Dodecane	1-Decanol	2,2-Dimethylbutane
Cyclopentene	Isopropanol	n-Heptadecane	1-Dodecene	
Cyclopropane		n-Heptane	1-Dodecanol	

(1) This list is subject to change without notice. Steam per ASME Steam tables. All other fluids per AIChE.

## Block Tag Names

AI Block Name (Flow): \_\_\_\_\_ (AI 1400 ★)

AI Block Name (DP): \_\_\_\_\_ (AI 1500 ★)

AI Block Name (SP): \_\_\_\_\_ (AI 1600 ★)

AI Block Name (PT): \_\_\_\_\_ (AI 1700 ★)

INTEG Block Name (Flow Total): \_\_\_\_\_ (INTEG 2100 ★)

## Drawing/Notes

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## Fluid Data Sheet (FDS)

For custom fluid not in the Rosemount Fluid Database

For technical assistance in filling out this CDS, call an Emerson Process Management representative. Complete this form to define a custom fluid. The H symbol identifies the default value.

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### NOTE

This form is not required if using the Rosemount Fluid Database.

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\* = Required Item

★ = Default

#### Customer Information

Customer:	Contact Name:
Customer Phone:	Customer Fax:
	Customer PO:

#### Fluid Properties

<input type="checkbox"/> Custom Liquid– Complete Table	<input type="checkbox"/> Liquid
<input type="checkbox"/> Custom Gas– Complete Table	<input type="checkbox"/> Gas
<input type="checkbox"/> Custom Natural Gas– Complete Table	<input type="checkbox"/> Natural Gas

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#### For Rosemount Use Only

S.O.:	LI
CHAMP:	DATE:
	ADMIN:

# The Annubar Flowmeter Series

**TABLE 36. Custom Liquid Worksheet**

\* = Required Item

★ = Default

**Mass Liquid Density and Viscosity Information**

1. Fill in the following operating temperatures

- a) \_\_\_\_\_ min
- b) \_\_\_\_\_ [ $^{1/3}(\text{max} - \text{min})$ ] + min
- c) \_\_\_\_\_ [ $^{2/3}(\text{max} - \text{min})$ ] + min
- d) \_\_\_\_\_ max

**2. Transfer the values from the above section to the numbered lines below.**

3. Check one Density box, then enter the values for each temperature and the standard density.

4. Check one Viscosity box, then enter values for each temperature. (At least one viscosity value is required).

Density

- Density in lbs/CuFt
- Density in kg/CuM

Viscosity

- Viscosity in centipoise
- Viscosity in lbs/ft sec
- Viscosity in pascal sec

Temperature

- a) \_\_\_\_\_ min
- b) \_\_\_\_\_ [ $^{1/3}(\text{max} - \text{min})$ ] + min
- c) \_\_\_\_\_ [ $^{2/3}(\text{max} - \text{min})$ ] + min
- d) \_\_\_\_\_ max

Temperature

- a) \_\_\_\_\_ min.
- b) \_\_\_\_\_ [ $^{1/3}(\text{max} - \text{min})$ ] + min
- c) \_\_\_\_\_ [ $^{2/3}(\text{max} - \text{min})$ ] + min
- d) \_\_\_\_\_ max

Base density: \_\_\_\_\_  
 (at base reference conditions specified)

**Volumetric Liquid Density and Viscosity Information**

\* Density at Flow: \_\_\_\_\_ Units:  lb/ft<sup>3</sup>  Kg/m<sup>3</sup>  Other:

OR

Specific Gravity at Flow: \_\_\_\_\_

\* Viscosity at Flow: \_\_\_\_\_ Units:  Centipoise  Other:



**TABLE 37. Custom Gas Worksheet**

\* = Required Item

★ = Default

**Mass Gas Compressibility and Viscosity Information**

1. Fill in the following operating pressures and operating temperatures

Operating Pressures

- 1) \_\_\_\_\_ min
- 2) \_\_\_\_\_ [ $^{1/3}$  (max - min))] + min
- 3) \_\_\_\_\_ [ $^{2/3}$  (max - min))] + min
- 4) \_\_\_\_\_ max

Operating Temperatures

- 5) \_\_\_\_\_ min
- 6) \_\_\_\_\_ [ $^{1/2}$  (max - min))] + min
- 7) \_\_\_\_\_ max
- 8) \_\_\_\_\_ [ $^{1/3}$  (max - min))] + min
- 9) \_\_\_\_\_ [ $^{2/3}$  (max - min))] + min

**2. Transfer the values from the above section to the numbered lines below**

- 3. Check one Density/Compressibility box, then enter the 12 values for each pressure/temperature range.
- 4. Check one Viscosity box, then enter values for each temperature. (At least one viscosity value is required).
- 5. Enter values for molecular weight, isentropic exponent, and standard density (or standard compressibility).

Density

- Density in lbs/CuFt
- Density in kg/CuM
- Compressibility

Pressure

Temperature

- |          |          |
|----------|----------|
| 1) _____ | 5) _____ |
| 2) _____ | 5) _____ |
| 3) _____ | 5) _____ |
| 4) _____ | 5) _____ |
| 1) _____ | 6) _____ |
| 2) _____ | 6) _____ |
| 3) _____ | 6) _____ |
| 4) _____ | 6) _____ |
| 1) _____ | 7) _____ |
| 2) _____ | 7) _____ |
| 3) _____ | 7) _____ |
| 4) _____ | 7) _____ |

Viscosity

- Viscosity in centipoise
- Viscosity in lbs/ft sec
- Viscosity in pascal sec

Temperature

- 5) \_\_\_\_\_
- 8) \_\_\_\_\_
- 9) \_\_\_\_\_
- 7) \_\_\_\_\_

Molecular Weight: \_\_\_\_\_

Isentropic Exponent: \_\_\_\_\_ 1.4 ★

Standard density/compressibility: \_\_\_\_\_

**Volumetric Gas Compressibility and Viscosity Information**

\* Density at Flow: \_\_\_\_\_ Units:  lb/ft<sup>3</sup>  Kg/m<sup>3</sup>  Other:

OR

M.W. / Specific Gravity at Flow: \_\_\_\_\_

Compressibility at Flow: \_\_\_\_\_

Compressibility at Base: \_\_\_\_\_

\* Viscosity at Flow: \_\_\_\_\_ Units:  Centipoise  Other: Isentropic Exponent (K): \_\_\_\_\_ 1.4 ★

# The Annubar Flowmeter Series

**TABLE 38. Natural Gas Worksheet**

**NOTE**

The minimum requirement for the Volumetric options is highlighted gray on page 68.

**Compressibility Factor Information**

Choose desired characterization method and only enter values for that method.

<input type="checkbox"/> Detail Characterization Method (AGA8 1992)		Mole	Valid Range
CH <sub>4</sub>	Methane mole percent _____	%	0 – 100 percent
N <sub>2</sub>	Nitrogen mole percent _____	%	0 – 100 percent
CO <sub>2</sub>	Carbon Dioxide mole percent _____	%	0 – 100 percent
C <sub>2</sub> H <sub>6</sub>	Ethane mole percent _____	%	0 – 100 percent
C <sub>3</sub> H <sub>8</sub>	Propane mole percent _____	%	0 – 12 percent
H <sub>2</sub> O	Water mole percent _____	%	0 – Dew point
H <sub>2</sub> S	Hydrogen Sulfide mole percent _____	%	0 – 100 percent
H <sub>2</sub>	Hydrogen mole percent _____	%	0 – 100 percent
CO	Carbon monoxide mole percent _____	%	0 – 3.0 percent
O <sub>2</sub>	Oxygen mole percent _____	%	0 – 21 percent
C <sub>4</sub> H <sub>10</sub>	i-Butane mole percent _____	%	0 – 6 percent <sup>(1)</sup>
C <sub>4</sub> H <sub>10</sub>	n-Butane mole percent _____	%	0 – 6 percent <sup>(1)</sup>
C <sub>5</sub> H <sub>12</sub>	i-Pentane mole percent _____	%	0 – 4 percent <sup>(2)</sup>
C <sub>5</sub> H <sub>12</sub>	n-Pentane mole percent _____	%	0 – 4 percent
C <sub>6</sub> H <sub>14</sub>	n-Hexane mole percent _____	%	0 – Dew Point
C <sub>7</sub> H <sub>18</sub>	n-Heptane mole percent _____	%	0 – Dew Point
C <sub>8</sub> H <sub>18</sub>	n-Octane mole percent _____	%	0 – Dew Point
C <sub>9</sub> H <sub>20</sub>	n-Nonane mole percent _____	%	0 – Dew Point
C <sub>10</sub> H <sub>22</sub>	n-Decane mole percent _____	%	0 – Dew Point
He	Helium mole percent _____	%	0 – 3.0percent
Ar	Argon mole percent _____	%	0 – 1.0 percent

<input type="checkbox"/> Gross Characterization Method, Option Code 1 (AGA8 Gr-Hv-CO <sub>2</sub> )		Mole	Valid Range
Specific Gravity at 14.73 psia and 60 °F _____			0.554 – 0.87
Volumetric gross heating value at base conditions _____		BTU/SCF	477 – 1150 BTU/SCF
Carbon Dioxide mole percent _____		%	0 – 30 percent
Hydrogen mole percent _____		%	0 – 10 percent
Carbon Monoxide mole percent _____		%	0 – 3.0 percent

<input type="checkbox"/> Gross Characterization Method, Option Code 2 (AGA8 Gr-CO <sub>2</sub> -N <sub>2</sub> )		Mole	Valid Range
Specific Gravity at 14.73 psia and 60 °F _____		%	0.554 – 0.87
Carbon Dioxide mole percent _____		%	0 – 30 percent
Nitrogen mole percent _____		%	0 – 50 percent
Hydrogen mole percent _____		%	0 – 10 percent
Carbon Monoxide mole percent _____		%	0 – 3.0 percent

(1) The summaries of i-Butane and n-Butane cannot exceed 6 percent.

(2) The summaries of i-Pentane and n-Pentane cannot exceed 4 percent.



# The Annubar Flowmeter Series

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## Product Data Sheet

00813-0100-4809, Rev EA

Catalog 2006 - 2007

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