Product Data Sheet
June 2013
00813-0500-4485, Rev EC

Rosemount Annubar Primary Elements

- Energy savings gained through minimal permanent pressure loss
- Variety of sensor materials
- Flexible mounting options

Rosemount 485 Annubar Primary Element Technology

- Innovative T-shape design that increases accuracy to +/-0.75% of flow rate
- Integral thermowell design saves installation time and cost
- Higher signal strength enhances measurement at low flows

Rosemount 585 Annubar Primary Element Technology

- Handles applications where conditions exceed the structural limitations of other primary elements
- Symmetrical sensor design allows bi-directional flow measurement

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Contents

Rosemount 485 Annubar Primary Element

Rosemount 485 Annubar Primary Element utilizes a T-shaped sensor design that offers best in class accuracy and performance.

- Up to 0.75% Flow Rate Accuracy
- Lowest permanent pressure loss of any DP Flowmeter
- Available in 2 to 96-in. (50 - 2400 mm) line sizes

Additional Information
Specifications: page 9
Dimensional Drawings: page 24
Installation and Flowmeter Orientation: Click Here

Table 1. Rosemount 485 Annubar Primary Ordering Information

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery. The Expanded offering is subject to additional delivery lead time.

Model	DP Flow Primary Type	
485	Annubar Primary Element	
Fluid Type		
Standard		**Standard**
L	Liquid	★
G	Gas	★
S	Steam	★
Line Size		
Standard		**Standard**
020	2-in. (50 mm)	★
025	2 1/2-in. (63.5 mm)	★
030	3-in. (80 mm)	★
035	3 1/2-in. (89 mm)	★
040	4-in. (100 mm)	★
050	5-in. (125 mm)	★
060	6-in. (150 mm)	★
070	7-in. (175 mm)	★
080	8-in. (200 mm)	★
100	10-in. (250 mm)	★
120	12-in. (300 mm)	★
Expanded		
140	14-in. (350 mm)	
160	16-in. (400 mm)	
180	18-in. (450 mm)	
200	20-in. (500 mm)	
240	24-in. (600 mm)	
300	30-in. (750 mm)	
360	36-in. (900 mm)	
420	42-in. (1066 mm)	
480	48-in. (1210 mm)	
600	60-in. (1520 mm)	
720	72-in. (1820 mm)	

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780	78-in. (1950 mm)	
840	84-in. (2100 mm)	
900	90-in. (2250 mm)	
960	96-in. (2400 mm)	
Pipe I.D. Range (See "Pipe I.D. Range Code" on page 21)		
Standard		**Standard**
C	Range C from the Pipe I.D. table	★
D	Range D from the Pipe I.D. table	★
Expanded		
A	Range A from the Pipe I.D. table	
B	Range B from the Pipe I.D. table	
E	Range E from the Pipe I.D. table	
Z	Non-standard Pipe I.D. Range or Above 12-in. Line Size	
Pipe Material / Assembly Material		
Standard		**Standard**
C	Carbon steel (A105)	★
S	316 Stainless Steel	★
0[(1)]	No mounting (Customer Supplied)	★
Expanded		
G	Chrome-Moly Grade F-11	
N	Chrome-Moly Grade F-22	
J	Chrome-Moly Grade F-91	
Piping Orientation		
Standard		**Standard**
H	Horizontal Piping	★
D	Vertical Piping with Downwards Flow	★
U	Vertical Piping with Upwards Flow	★
Annubar Type		
Standard		**Standard**
P	Pak-Lok	★
F	Flanged with opposite side support	★
Expanded		
L	Flange-Lok	
G	Gear-Drive Flo-Tap	
M	Manual Flo-Tap	
Sensor Material		
Standard		**Standard**
S	316 Stainless Steel	★
Expanded		
H	Alloy C-276	
Sensor Size		
Standard		**Standard**
1	Sensor size 1 — Line sizes 2-in. (50 mm) to 8-in. (200 mm)	★
2	Sensor size 2 — Line sizes 6-in. (150 mm) to 96-in. (2400 mm)	★
3	Sensor size 3 — Line sizes greater than 12-in. (300 mm)	★

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Mounting Type				
Standard				**Standard**
T1	Compression/Threaded Connection			★
A1	150# RF ANSI			★
A3	300# RF ANSI			★
A6	600# RF ANSI			★
D1	DN PN16 Flange			★
D3	DN PN40 Flange			★
D6	DN PN100 Flange			★
Expanded				
A9[(2)]	900# RF ANSI			
AF[(2)]	1500# RF ANSI			
AT[(2)]	2500 # RF ANSI			
R1	150# RTJ Flange			
R3	300# RTJ Flange			
R6	600# RTJ Flange			
R9[(2)]	900# RTJ Flange			
RF[(2)]	1500# RTJ Flange			
RT[(2)]	2500# RTJ Flange			
Opposite Side Support or Packing Gland				
Standard				**Standard**
0	No opposite side support or Packing Gland (Required for Pak-Lok and Flange-Lok models)			★
	Opposite Side Support – Required for Flanged Models			
C	NPT Threaded Opposite Support Assembly – Extended Tip			★
D	Welded Opposite Support Assembly – Extended Tip			★
	Packing Gland – Required for Flo-Tap Models			
Expanded				
	Packing Gland Material	Rod Material	Packing Material	
J	Stainless Steel Packing Gland / Cage Nipple	Carbon Steel	PTFE	
K	Stainless Steel Packing Gland / Cage Nipple	Stainless Steel	PTFE	
L	Stainless Steel Packing Gland / Cage Nipple	Carbon Steel	Graphite	
N	Stainless Steel Packing Gland / Cage Nipple	Stainless Steel	Graphite	
R	Alloy C-276 Packing Gland / Cage Nipple	Stainless Steel	Graphite	
Isolation Valve for Flo-Tap Models				
Standard				**Standard**
0[(1)]	Not Applicable or Customer Supplied			★
Expanded				
1	Gate Valve, Carbon Steel			
2	Gate Valve, Stainless Steel			
5	Ball Valve, Carbon Steel			
6	Ball Valve, Stainless Steel			
Temperature Measurement				
Standard				**Standard**
T	Integral RTD – not available with Flanged model greater than class 600#			★
0	No Temperature Sensor			★
Expanded				
R	Remote Thermowell and RTD			

Table 1. Rosemount 485 Annubar Primary Ordering Information

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery.
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Transmitter Connection Platform		
Standard		**Standard**
3	Direct-mount, Integral 3-valve manifold– not available with Flanged model greater than class 600	★
5	Direct -mount, 5-valve Manifold– not available with Flanged model greater than class 600	★
7	Remote-mount NPT Connections	★
Expanded		
6	Direct-mount, High Temperature 5-valve Manifold– not available with Flanged model greater than class 600	
8	Remote-mount SW Connections	

Options (Include with selected model number)

Pressure Testing		
Expanded		
P1[3]	Hydrostatic Testing with Certificate	
PX[3]	Extended Hydrostatic Testing	
Special Cleaning		
Expanded		
P2	Cleaning for Special Services	
PA	Cleaning per ASTM G93 level D (section 11.4)	
Material Testing		
Expanded		
V1	Dye Penetrant Exam	
Material Examination		
Expanded		
V2	Radiographic Examination	
Flow Calibration		
Expanded		
W1	Flow Calibration (Average K)	
WZ	Special Calibration	
Special Inspection		
Standard		**Standard**
QC1	Visual & Dimensional Inspection with Certificate	★
QC7	Inspection & Performance Certificate	★
Surface Finish		
Standard		**Standard**
RL	Surface finish for Low Pipe Reynolds Number in Gas & Steam	★
RH	Surface finish for High Pipe Reynolds Number in Liquid	★
Material Traceability Certification		
Standard		**Standard**
Q8[4]	Material Traceability Certificate per EN 10204:2004 3.1	★
Code Conformance		
Expanded		
J2[5]	ANSI/ASME B31.1	
J3[5]	ANSI/ASME B31.3	
Materials Conformance		

Table 1. Rosemount 485 Annubar Primary Ordering Information

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Expanded		
J5[6]	NACE MR-0175 / ISO 15156	
Country Certification		
Standard		**Standard**
J6	European Pressure Directive (PED)	★
Expanded		
J1	Canadian Registration	
Installed in Flanged Pipe Spool Section		
Expanded		
H3	150# Flanged Connection with Rosemount Standard Length and Schedule	
H4	300# Flanged Connection with Rosemount Standard Length and Schedule	
H5	600# Flanged Connection with Rosemount Standard Length and Schedule	
Instrument Connections for Remote Mount Option		
Standard		**Standard**
G2	Needle Valves, Stainless Steel	★
G6	OS&Y Gate Valve, Stainless Steel	★
Expanded		
G1	Needle Valves, Carbon Steel	
G3	Needle Valves, Alloy C-276	
G5	OS&Y Gate Valve, Carbon Steel	
G7	OS&Y Gate Valve, Alloy C-276	
Special Shipment		
Standard		**Standard**
Y1	Mounting Hardware Shipped Separately	★
Attach To		
Expanded		
H1	Attach to Transmitter	
Special Dimensions		
Expanded		
VM	Variable Mounting	
VT	Variable Tip	
VS	Variable length Spool Section	
V9	Special Dimension	
Typical Model Number: 485 L 060 D C H P S 2 T1 0 0 0 3		

(1) Provide the "A" dimension for Flanged (page 28), Flange-Lok (page 26), and Threaded Flo-Tap models (page 31). Provide the "B" dimension for Flange Flo-Tap models (page 29).

(2) Available in remote mount applications only.

(3) Applies to flow element only, mounting hardware not tested.

(4) Instrument Connections for Remote Mount Options and Isolation Valves for Flo-tap Models are not included in the Material Traceability Certification.

(5) Not available with Transmitter Connection Platform 6.

(6) Materials of Construction comply with metallurgical requirements within NACE MR0175/ISO 15156 for sour oil field production environments. Environmental limits apply to certain materials. Consult latest standard for details. Selected materials also conform to NACE MR0103 for sour refining environments.

Rosemount 485 specifications

Rosemount 485 performance specifications

Performance statement assumptions
Measured pipe I.D. (or Measured pipe cross sectional area)

Discharge coefficient factor
±0.75% of flow rate

Repeatability
±0.1%

Line Sizes

- Sensor Size 1: 2-in. to 8-in. (50 to 200 mm)
- Sensor Size 2: 6-in. to 96-in. (150 to 2400 mm)
- Sensor Size 3: 12-in. to 96-in. (300 to 2400 mm)

Note
Some mounting types are not available in larger line sizes.

Table 2. Reynolds Number and Probe Width

Sensor Size	Minimum Rod Reynolds Number (R_d)	Probe Width ($_d$) (inches)
1	6500	0.590-in. (14.99 mm)
2	12500	1.060-in. (26.92 mm)
3	25000	1.935-in. (49.15 mm)

$$_d = \frac{d \times v \times p}{\mu}$$

Where
d = Probe width (feet)
v = Velocity of fluid (ft/sec)
p = Density of fluid (lbm/ft^3)
μ = Viscosity of the fluid (lbm/ft-sec)

Sizing
Contact an Emerson Process Management representative for assistance. A Configuration Data Sheet is required prior to order for application verification.

Flow turndown
10:1 or better

Annubar sensor surface finish
The front surface of the Annubar primary is textured for high Reynolds number applications (typically gas and steam). The surface texture creates a more turbulent boundary layer on the front surface of the sensor. The increased turbulence produces a more predictable and repeatable separation of flow at the edge of the sensor. The appropriate surface finish will be determined for each application by the Emerson Process Management sizing program, Instrument Toolkit software.

Rosemount 485 functional specifications

Service

- Liquid
- Gas
- Steam

Process Temperature Limits
Direct Mount Transmitter

- 500 °F (260 °C)
- 750 °F (398 °C) when used with a direct mount, high temperature 5-valve manifold (Transmitter Connection Platform code 6). Maximum temperature limit for steam processes is 650 °F (343 °C).
- 400 °F (204 °C) when top mounted in steam service

Remote Mount Transmitter

- 1250 °F (677 °C) – Alloy C-276 Sensor Material (For superheated steam applications above 1000 °F (538 °C), it is recommended that the Rosemount 585 with Alloy 800H sensor material is used.)
- 850 °F (454 °C) – Stainless Steel Sensor Material

Pressure and Temperature Limits(1)
Direct Mount Transmitter

- Up to 600# ANSI (1440 psig at 100 °F (99 bar at 38 °C))
- Integral temperature measurement is not available with Flanged mounting type greater than class 600

Remote Mount Transmitter

- Up to 2500# ANSI (6000 psig at 100 °F (416 bar at 38 °C)).

(1) Static pressure selection may effect pressure limitations.

Rosemount 485 physical specifications

Temperature Measurement

Integral RTD

- 100 Ohm platinum RTD
- 4-wire RTD (α = 0.00385)

Remote RTD

- 100 Ohm platinum RTD, spring loaded with 1/2-in. NPT nipple and union (078 series with Rosemount 644 housing)

Thermowell

- 1/2-in. x 1/2-in NPT, 316 Stainless Steel with 1/2-in. weld couplet (same as specified pipe material).

Housing connections

1/2–14 NPT, G1/2, and M20 × 1.5 conduit. HART interface connections fixed to terminal block for output code A

Annubar sensor material

- 316 Stainless Steel
- Alloy C-276

Mounting material

- Carbon Steel (A105)
- 316 Stainless Steel
- Chrome-Moly Grade F-11
- Chrome-Moly Grade F-22
- Chrome-Moly Grade F-91

Annubar type

See "485 Dimensional Drawings" on page 24

Pak-Lok Mode (option P)

- Provided with a compression sealing mechanism rated up to 600# ANSI (1440 psig at 100 °F (99 bar at 38 °C))
- –150 to 850 °F (–101 to 454 °C)
- Not available for steam above 600°F (315 °C)

Flanged with Opposite Side Support Model (option F)

- Provided with opposite side support, which is the same material as the pipe and requires a second pipe penetration
- Sensor flange is the same material as the Annubar sensor and the mounting flange is the same material as the pipe material
- Flanged mounting hardware: nuts, studs and gaskets (DIN units supplied without nuts, studs and gaskets). Standard bolting provided is Carbon Steel (A193 B7/A194 2H). Standard gaskets provided are spiral wound 304SST flexible graphite filled.
- SST: (–300 to 850 °F (–184 to 454 °C))
- Alloy C-276: (–150 to 1250 °F (-101 to 677 °C))

Flange–Lok Model (option L)

- Flange–Lok assembly is supplied in 316 SST material.
- Flange-Lok mounting hardware: nuts, studs and gaskets (DIN units supplied without nuts, studs and gaskets). Standard bolting provided is Carbon Steel (A193 B7/A194 2H). Standard gaskets provided are spiral wound 304SST flexible graphite filled.
- –150 to 850 °F (-101 to 454 °C)
- Not available for steam above 600 °F (315 °C)

Flo-Tap Models (options G and M)

- Opposite side support is not available
- Threaded connection is not available with Sensor Size 3
- Gear Drive is not available with Sensor Size 1
- Packing gland required
- Packing Gland Material Temperature Limits
  - PTFE: –40 to 400 °F (–40 to 204 °C)
  - Graphite: –150 to 850 °F (-101 to 454 °C)
- Isolation valve included
  - The isolation valve will carry the same pressure rating as the sensor flange and mounting flange specified in the mounting type
  - Isolation vales are not supplied with DIN flanges and must be customer supplied
- For threaded flo-tap models, the isolation valve NPT size is 1 1/4-in. (Sensor Size 1) and 2-in. (Sensor Size 2).

Annubar Type Specification Chart

Option Code	Description	Pak-Lok(1)	Flange-Lok	Flange	Manual and Gear Drive Flo-Tap
T1(1)	Pak-Lok Body	X			
	Threaded connection				X
A1	150# RF ANSI		X	X	X
A3	300# RF ANSI		X	X	X
A6	600# RF ANSI		X	X	X
A9(2)	900# RF ANSI			X	
AF(2)	1500# RF ANSI			X	
AT(2)	2500# RF ANSI			X	
D1	DN PN 16		X	X	X
D3	DN PN 40		X	X	X
D6	DN PN 100		X	X	X
R1	150# RTJ Flange		X	X	X
R3	300# RTJ Flange		X	X	X
R6	600# RTJ Flange		X	X	X
R9(2)	900# RTJ Flange			X	
RF(2)	1500# RTJ Flange			X	
RT(2)	2500# RTJ Flange			X	

(1) Available up to 600# ANSI (1440 psig at 100 °F (99 bar at 38 °C)) rating.

(2) Remote mount only.

RTD temperature limits

Integral and Remote Mounted Thermowell:
-100 to 900 °F (-73 to 482 °C)

Instrument Connections Temperature Ranges

Table 3. Minimum / Maximum Temperature Range

Code	Description	Temperature
G1	Needle Valves, Carbon Steel	–20 to 500 °F (–29 to 260 °C)
G2	Needle Valves, Stainless Steel	–40 to 600 °F (–40 to 316 °C)
G3	Needle Valves, Alloy C-276	–40 to 600 °F (–40 to 316 °C)
G5	OS&Y Gate Valve, Carbon Steel	–20 to 775 °F (–29 to 413 °C)
G6	OS&Y Gate Valve, Stainless Steel	–40 to 850 °F (–40 to 454 °C)
G7	OS&Y Gate Valve, Alloy C-276	–40 to 1250 °F (–40 to 677 °C)

Flowmeter Installed in Flanged Pipe Spool Section (option codes H3, H4, and H5)

- All pipe spool sections are flanged pipe sections
- The flanged pipe spool section is constructed from the same material as the Pipe Material / Mounting Assembly Material.
- Consult the factory for remote temperature measurement and ANSI ratings above 600# and DIN flanges.
- Available in carbon steel (A105) and 316 stainless steel

Table 4. Flanged Pipe Spool Section Schedule

ANSI	Schedule
150# ANSI	40
300# ANSI	40
600# ANSI	80

Table 5. Flange Pipe Spool Section Length

Nominal Pipe Size	Length
2-in. (50 mm)	10.52-in. (267.2 mm)
3-in. (80 mm)	11.37-in. (288.8 mm)
4-in. (100 mm)	12.74-in. (323.6 mm)
6-in. (150 mm)	14.33-in. (364.0 mm)
8-in. (200 mm)	16.58-in. (421.1 mm)

Rosemount 585 Annubar Primary Element

Rosemount 585 Annubar Primary Element utilizes a solid sensor construction that offers capabilities for severe service applications.

- Main Steam Line mounting hardware available
- Symmetrical sensor design allows bi-directional flow measurement
- Available in 4 to 96-in. (50 - 2400 mm) line sizes

Additional Information
Specifications: page 18
Dimensional Drawings: page 32
Installation and Flowmeter Orientation: Click Here

Table 6. Rosemount 585 Annubar Ordering Information

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery. The Expanded offering is subject to additional delivery lead time.

Model	DP Flow Primary Type	
585	Severe Service Annubar Primary Element	
Application Type		
Standard		**Standard**
S[1][2]	Severe Service Annubar	★
Expanded		
M[3]	Main Steam Line Annubar	
Fluid Type		
Standard		**Standard**
L	Liquid	★
G	Gas	★
S	Steam	★
Annubar Type		
Standard		**Standard**
F	Flanged with Opposite Side Support	★
Expanded		
L	Main Steam Annubar with Opposite Side Support	
G	Gear-Drive Flo-Tap	
Line Size		
Standard		**Standard**
040	4-in. (100 mm)	★
050	5-in. (125 mm)	★
060	6-in. (150 mm)	★
080	8-in. (200 mm)	★
100	10-in. (250 mm)	★
120	12-in. (300 mm)	★
Expanded		
140	14-in. (350 mm)	

Table 6. Rosemount 585 Annubar Ordering Information

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery.
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160	16-in. (400 mm)	
180	18-in. (450 mm)	
200	20-in. (500 mm)	
240	24-in. (600 mm)	
300	30-in. (750 mm)	
360	36-in. (900 mm)	
420	42-in. (1066 mm)	
480	48-in. (1210 mm)	
600	60-in. (1520 mm)	
720	72-in. (1820 mm)	
840	84-in. (2100 mm)	
960	96-in. (2400 mm)	
Mounting Assembly Material		
Standard		**Standard**
C	Carbon Steel (A105)	★
S	316/316L Stainless Steel	★
Expanded		
L	Carbon Steel (A350 LF2)	
G	Chrome-Moly Grade F-11	
N	Chrome-Moly Grade F-22	
J	Chrome-Moly Grade F-91	
0[4]	No Mounting (Customer Supplied)	
Piping Orientation		
Standard		**Standard**
H	Horizontal Piping	★
D	Vertical Piping with Downwards Flow	★
U	Vertical Piping with Upwards Flow	★
Sensor Material		
Standard		**Standard**
S	316/316L Stainless Steel	★
Expanded		
H[5]	Alloy C-276	
W[3][5]	Alloy 800H	
K[5]	PVDF (KYNAR)	
Sensor Size		
Standard		**Standard**
11	Sensor size 11	★
22[6]	Sensor size 22	★
Expanded		
44[2][3]	Sensor size 44	
Mounting Type		
Standard		**Standard**
A	ANSI B16.5 Raised Face Flanges	★
D[7]	DIN Raised Face Flanges	★
Expanded		

Table 6. Rosemount 585 Annubar Ordering Information

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R[8]	ANSI B16.5 Ring Type Joint Flanges	
0[3]	Main Steam Packing Gland	
Mounting Pressure Class		
Standard		**Standard**
1	ANSI 150 / DIN PN16	★
3[6]	ANSI 300 / DIN PN40	★
6[6]	ANSI 600 / DIN PN100	★
Expanded		
N[5][6]	ANSI 900	
F[5][6]	ANSI 1500	
T[5][6]	ANSI 2500	
0[3][5][6]	Main Steam Packing Gland	
Opposite Side Support		
Standard		**Standard**
C[9]	NPT Threaded Opposite Support Assembly	★
D[3]	Welded Opposite Support Assembly	★
Expanded		
E	Flanged Opposite Support Assembly	
0[2]	No Opposite Side Support Required	
Packing Gland/ Packing		
Standard		**Standard**
0[1]	Not Applicable	★
Expanded		
L[2]	SS Packing Gland / Graphite Packing	
T[3]	Main Steam Packing Gland / Graphite Packing	
Insertion Mechanism		
Standard		**Standard**
0[1][3]	Not Applicable	★
Expanded		
C	Alloy Steel Insertion Rods / Nuts	
S	Stainless Steel Insertion Rods / Nuts	
Isolation Valve		
Standard		**Standard**
0[3][1]	Not Applicable or Customer Supplied	★
Expanded		
1	Gate Valve, Carbon Steel	
2	Gate Valve, Stainless Steel	
5	Ball Valve, Carbon Steel	
6	Ball Valve, Stainless Steel	
Temperature Measurement		
Standard		**Standard**
0	No Temperature Sensor Required	★
Expanded		
R[4][6][9]	Remote RTD ($^1/_2$-in. NPT Aluminum Housing) with Thermowell	
S[4][6][9]	Remote RTD ($^1/_2$-in. NPT Stainless Housing) with Thermowell	
Transmitter Connection Platform		

Table 6. Rosemount 585 Annubar Ordering Information

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Standard		**Standard**
3[(6)(10)(11)]	Direct-Mount, 3-Valve Manifold	★
Expanded		
4[(6)(10)(11)]	Direct-Mount, Dual 3-Valve Manifolds	
6[(6)(10)(12)]	High Temperature Direct-Mount 5-Valve Manifold	
7	Remote-Mount 1/2-in. Threaded Connections	
8[(3)]	Remote-Mount 1/2-in. Welded Connections	
Mounting Flange Bolting materials		
Standard		**Standard**
A	193 Gr B7 Studs w/ A194 Gr 2H Nuts	★
0	No Flange Studs/Nuts Supplied	★
Mounting Flange Gasket Materials		
Standard		**Standard**
1	Spiral Wound, 304SS, Flexible-Graphite Filler	★
0	No Flange Gasket Supplied	★
Expanded		
2	Ring-Joint, ANSI B16.20, Hexagonal, 316L	
3	Spiral Wound, B16.20, 316SS, PTFE Filler	

Options (Include with selected model number)

Optional Mounting for Rectangular Ducts		
Expanded		
RD	Annubar Mounting for rectangular ducts	
Pressure Testing		
Expanded		
P1[(13)]	Hydrostatic Testing with Certificate	
PX	Extended Hydrostatic Testing	
Special Cleaning		
Expanded		
PA[(6)(14)]	Cleaning per ASTM G93 Level D (section 11.4)	
Material Testing		
Expanded		
V1	Dye Penetrant Weld Exam	
Material Examination		
Expanded		
V2	Radiographic Weld Examination	
Flow Calibration		
Expanded		
W1	Flow Calibration (Average K)	
Special Inspection		
Standard		**Standard**
QC1	Visual & Dimensional Inspection w/ Cert.	★

Table 6. Rosemount 585 Annubar Ordering Information

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery.
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QC7	Inspection & Performance Certificate	★
Material Traceability Certification		
Standard		**Standard**
Q8[5][15]	Material Traceability Certification per EN 10204:2004 3.1	★
Positive Material Testing		
Expanded		
V4[15]	Positive Material Identification	
Code Conformance		
Expanded		
J2	ANSI/ASME B31.1	
J3	ANSI/ASME B31.3	
Materials Conformance		
Expanded		
J5[16]	NACE MR-0175 / ISO 15156	
Country Certification		
Standard		**Standard**
J6	European Pressure Directive (PED)	★
Expanded		
J1	Canadian Registration Certificate	
Instrument Valves for Remote Mount Option		
Standard		**Standard**
G2	1/2-in. Needle Valves, SS	★
G6	1/2-in. OS&Y Gate Valve, SS	★
Expanded		
G1	1/2-in. Needle Valves, CS	
G3	1/2-in. Needle Valves, Alloy C-276	
G5	1/2-in. OS&Y Gate Valve, CS	
Instrument Valve Options		
Standard		**Standard**
DV[17]	Double Instrument Valves (4 valves total)	★
Special Shipment		
Standard		**Standard**
Y1	Mounting Hardware Shipped Separately	★
Assemble Mounting Hardware		
Expanded		
WP[18]	Assemble Weldolet to Packing body	
Special Dimensions		
Expanded		
VM	Variable Mounting	
585 Packing Gland Plug		
Expanded		
TP[18]	Packing Gland Plug for Steam Blow Down	

Table 6. Rosemount 585 Annubar Ordering Information

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery.
The Expanded offering is subject to additional delivery lead time.

585 Installation Alignment Bar		
Expanded		
A1[18]	Installation Alignment Bar	
Typical Model Number: 585 M S L 120 J H W 44 0 0 0 T 0 0 8 0 0		

(1) Required for Annubar Type F.

(2) Required for Annubar Type G.

(3) Required for Annubar Type L.

(4) Not available with Annubar Type L.

(5) Not available with Annubar Type G.

(6) Not available with Sensor Material K.

(7) Mounting Flange Bolting and Gasket option code 0 must be selected.

(8) Mounting Flange Gasket Material option code 2 or 0 must be selected.

(9) Not available with ANSI 2500 Mounting Pressure Class.

(10) Not available with Mounting Pressure Class N, T, or F.

(11) Not available with Sensor Material W.

(12) Not available with Sensor Material H or W.

(13) Applies to flow element only, mounting not tested.

(14) If selected with Annubar Type F, Mounting Flange Gasket Material option code 3 must be selected.

(15) For pressure retaining parts only, isolation and instrument valves are not included.

(16) Materials of Construction comply with metallurgical requirements within NACE MR0175/ISO 15156 for sour oil field production environments. Environmental limits apply to certain materials. Consult latest standard for details. Selected materials also conform to NACE MR0103 for sour refining environments.

(17) Only available if Instrument Valves for Remote Mount Option are selected.

(18) Only available with Annubar Type L.

Rosemount 585 specifications

Rosemount 585 performance specifications

Performance statement assumptions
Measured pipe I.D.

Discharge coefficient factor
±1.50% of flow rate

Repeatability
±0.10%

Line sizes

- Sensor Size 11: 4-in. to 24-in. (100 to 600 mm)
- Sensor Size 22: 6-in. to 36-in. (150 to 900 mm)
- Sensor Size 44: 10-in. to 96-in. (250 to 2400 mm)

Table 7. Reynolds Number and Probe Width

Sensor Size	Minimum Rod Reynolds Number (R_d)	Probe Width ($_d$) (inches)
11	6500	0.80-in. (20,32 mm)
22	10000	1.20-in. (30,48 mm)
44	25000	2.28-in. (57,91 mm)

Where

$$R_d = \frac{d \times v \times p}{\mu}$$

d = Probe width (feet)
v = Velocity of fluid (ft/sec)
p = Density of fluid (lbm/ft^3)
μ = Viscosity of the fluid (lbm/ft-sec)

Sizing
Contact an Emerson Process Management representative for assistance. A Configuration Data Sheet is required prior to order for application verification.

Flow turndown
10:1 or better

Rosemount 585 functional specifications

Service

- Liquid
- Gas
- Steam

Process temperature limits
Table 8. Direct Mount Transmitter Connection Platform

Transmitter Connection Platform	Temperature Limit
3-valve manifold (Option code 3)	500 °F (260 °C)
5-valve manifold (Option code 6)	750 °F (398 °C)
Note: Specification is 600 °F (315 °C) in steam service	

Table 9. Remote Mount Transmitter Connection Platform

Sensor Material	Temperature Limit
316 Stainless Steel (Option code S)	850 °F (454 °C)
Alloy C-276 (Option code H)	1250 °F (677 °C)
Alloy 800H (Option code W)	1500 °F (816 °C)
PVDF (KYNAR) (Option code K)	250 °F (121 °C)

Pressure and Temperature Limits
Table 10. Main Steam Line Annubar

Mounting Material	Sensor Material	Max. Pressure @ Temp.	Max. Temp.
Chrome-Moly Grade F-11	Alloy 800H	2317 psig @ 1000 °F (160 bar @ 538 °C)	1100 °F (593 °C)
Chrome-Moly Grade F-22	Alloy 800H	2868 psig @ 1000 °F (198 bar @ 538 °C)	1100 °F (593 °C)
Chrome-Moly Grade F-91	Alloy 800H	3788 psig @ 1100 °F (261 bar @ 593 °C)	1200 °F (649 °C)

Table 11. Severe Service Annubar

Annubar Type	Sensor Material	Max. Flange Rating
Flanged (option code F)	316 SST	2500# ANSI
	Alloy C-276	2500# ANSI
	Alloy 800H	2500# ANSI
	PVDF (KYNAR)	150# ANSI
Flanged Flo-Tap (option code G)	316 SST	600# ANSI

Rosemount 585 physical specifications

Temperature Measurement

Remote RTD

- Series 78 with Rosemount 644 housing 100 Ohm platinum RTD
- Spring loaded with 1/2-in. NPT nipple and union

Thermowell

- 1/2-in. NPT x 3/4-in. socket weld
- 316 Stainless Steel and Alloy C-276 Material
- 2.5-in. insertion length provided

Annubar Sensor Material

- 316 Stainless Steel
- Alloy C-276
- Alloy 800H
- PVDF (KYNAR)

Mounting Material

- Carbon Steel (A105)
- 316 Stainless Steel
- Carbon Steel (A350 LF2)
- Chrome-Moly Grade F-11
- Chrome-Moly Grade F-22
- Chrome-Moly Grade F-91

Annubar Type

See "Rosemount 585 dimensional drawings" on page 32

Flanged with Opposite Side Support Model (option F)

- Provided with opposite side support, which is the same material as the pipe and requires a second pipe penetration
- Sensor flange is the same material as the Annubar sensor and the mounting flange is the same material as the pipe material
- Flanged mounting hardware: nuts, studs and gaskets (DIN units supplied without nuts, studs and gaskets)
- SST: –325 to 850 °F (–198 to 454 °C)
- Alloy C-276: –325 to 1250 °F (–198 to 677 °C)
- PVDF (KYNAR): -40 to 250 °F (-40 to 121 °C)
- Alloy 800H: -325 to 1500 °F (-198 to 816 °C)

Main Steam Annubar with Opposite Side Support (option L)

- Provided with opposite side support, which is the same material as the pipe and requires a second pipe penetration
- Alloy 800H: -325 to 1500 °F (-198 to 816 °C)
- Only available in sensor size 44

Flanged Flo-Tap Models (option G)

- Opposite side support is not available
- Packing Gland Material Temperature Limits
  - Graphite: –40 to 850 °F (–40 to 454 °C)
- Isolation valve option
  - The isolation valve will carry the same pressure rating as the sensor flange and mounting flange specified in the mounting type
- SST: –325 to 850 °F (–198 to 454 °C)
- Maximum allowable insertion pressure: 1440 psig (99 bar)
- Only available in sensor size 44

Annubar Type Specification Chart

Option Code	Mounting Type/ Pressure Class	Flanged	Main Steam	Gear-Drive Flo-Tap
A1	150# RF ANSI	X		X
A3	300# RF ANSI	X		X
A6	600# RF ANSI	X		X
AN(1)	900# RF ANSI	X		
AF(1)	1500# RF ANSI	X		
AT(1)	2500# RF ANSI	X		
D1	DIN PN 16	X		X
D3	DIN PN 40	X		X
D6	DIN PN 100	X		X
R1	150# RTJ Flange	X		X
R3	300# RTJ Flange	X		X
R6	600# RTJ Flange	X		X
RN(1)	900# RTJ Flange	X		
RF(1)	1500# RTJ Flange	X		
RT(1)	2500# RTJ Flange	X		
00(1)	Main Steam Packing Gland		X	

(1) Remote mount only.

Instrument Connection Temperature Ranges

Table 12. Minimum / Maximum Temperature Range

Code	Description	Temperature
G1	Needle Valves, Carbon Steel	–20 to 550 °F (–29 to 288 °C)
G2	Needle Valves, Stainless Steel	–20 to 1000 °F (–29 to 538 °C)
G3	Needle Valves, Alloy C-276	–20 to 1000 °F (–29 to 538 °C)
G5	OS&Y Gate Valve, Carbon Steel	–20 to 800 °F (–29 to 427 °C)
G6	OS&Y Gate Valve, Stainless Steel	–20 to 850 °F (–29 to 454 °C)

Pipe I.D. Range Code

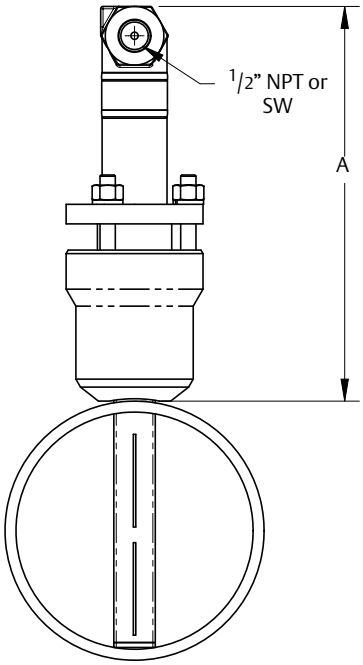
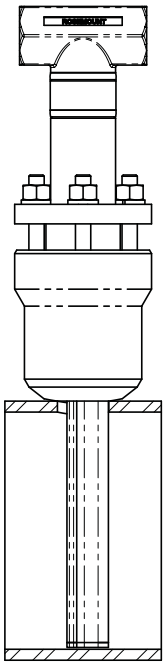
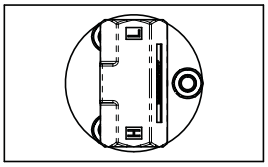
For pipes with an Inner Diameter (I.D.) Range / Pipe Wall Thickness not found in this table or with a line size greater than 12-in. (300 mm), choose option code Z and specify the exact pipe dimensions (I.D. and Pipe Wall Thickness) on the Configuration Data Sheet (See document 00806-0100-4010). The Emerson process Management sizing program will determine this code, based on the application piping.

	Line Size			Inner Diameter (I.D.) Range	Pipe Wall Thickness		I.D. Range Code
	Nominal	Max. O.D.	Option Code		ANSI Pipes	Non-ANSI Pipes	
	2-in. (50 mm)	2.625-in. (66.68 mm)	020	1.784 to 1.841-in. (45.31 to 46.76 mm)	0.065 to 0.545-in. (1.7 to 13.8 mm)	0.065 to 0.488-in. (1.7 to 12.4 mm)	A
				1.842 to 1.938-in. (46.79 to 49.23 mm)		0.065 to 0.449-in. (1.7 to 11.4 mm)	B
				1.939 to 2.067-in. (49.25 to 52.50 mm)		0.065 to 0.417-in. (1.7 to 10.6 mm)	C
				2.068 to 2.206-in. (52.53 to 56.03 mm)		0.065 to 0.407-in. (1.7 to 10.3 mm)	D
	2 1/2-in. (63.5 mm)	3.188-in. (80.98 mm)	025	2.207 to 2.322-in. (56.06 to 58.98 mm)	0.083 to 0.563-in. (2.1 to 14.3 mm)	0.083 to 0.448-in. (2.1 to 11.4 mm)	B
				2.323 to 2.469-in. (59.00 to 62.71 mm)		0.083 to 0.417-in. (2.1 to 10.6 mm)	C
				2.470 to 2.598-in. (62.74 to 65.99 mm)		0.083 to 0.435-in. (2.1 to 11.0 mm)	D
				2.599 to 2.647-in. (66.01 to 67.23 mm)		0.083 to 0.515-in. (2.1 to 13.1 mm)	E
	3-in. (80 mm)	3.75-in. (95.25 mm)	030	2.648 to 2.751-in. (67.26 to 69.88 mm)	0.083 to 0.563-in. (2.1 to 14.3 mm)	0.083 to 0.460-in. (2.1 to 11.7 mm)	A
				2.752 to 2.899-in. (69.90 to 73.63 mm)		0.083 to 0.416-in. (2.1 to 10.6 mm)	B
				2.900 to 3.068-in. (73.66 to 77.93 mm)		0.083 to 0.395-in. (2.1 to 10.0 mm)	C
				3.069 to 3.228-in. (77.95 to 81.99 mm)		0.083 to 0.404-in (2.1 to 10.3 mm)	D
	3 1/2-in. (89 mm)	4.25-in. (107.95 mm)	035	3.229 to 3.333-in. (82.02 to 84.66 mm)	0.120 to 0.600-in. (3.0 to 15.2 mm)	0.120 to 0.496-in. (3.0 to 12.6 mm)	B
				3.334 to 3.548-in. (84.68 to 90.12 mm)		0.120 to 0.386-in. (3.0 to 9.8 mm)	C
				3.549 to 3.734-in. (90.14 to 94.84 mm)		0.120 to 0.415-in. (3.0 to 10.5 mm)	D
	4-in. (100 mm)	5.032-in. (127.81 mm)	040	3.735 to 3.825-in. (94.87 to 97.16 mm)	0.120 to 0.600-in. (3.0 to 15.2 mm)	0.120 to 0.510-in. (3.0 to 13.0 mm)	B
				3.826 to 4.026-in. (97.18 to 102.26 mm)		0.120 to 0.400-in. (3.0 to 10.2 mm)	C
				4.027 to 4.237-in. (102.29 to 107.62 mm)		0.120 to 0.390-in. (3.0 to 9.9 mm)	D
				4.238 to 4.437-in. (107.65 to 112.70 mm)		0.120 to 0.401-in. (3.0 to 10.2 mm)	E
	5-in. (125 mm)	6.094-in. (154.79 mm)	050	4.438 to 4.571-in. (112.73 to 116.10 mm)	0.134 to 0.614-in. (3.4 to 15.6 mm)	0.134 to 0.481-in. (3.4 to 12.2 mm)	A
				4.572 to 4.812-in. (116.13 to 122.22 mm)		0.134 to 0.374-in. (3.4 to 9.5 mm)	B
				4.813 to 5.047-in. (122.25 to 128.19 mm)		0.134 to 0.380-in. (3.4 to 9.7 mm)	C
				5.048 to 5.249-in. (128.22 to 133.32 mm)		0.134 to 0.413-in. (3.4 to 10.5 mm)	D

Sensor Size 1	6-in. (150 mm)	6.93-in. (176.02 mm)	060	5.250 to 5.472-in. (133.35 to 138.99 mm)	0.134 to 0.614-in. (3.4 to 15.6 mm)	0.134 to 0.3919-in. (3.4 to 9.9 mm)	A
				5.473 to 5.760-in. (139.01 to 146.30 mm)		0.134 to 0.327-in. (3.4 to 8.3 mm)	B
				5.761 to 6.065-in. (146.33 to 154.05 mm)		0.134 to 0.31-in. (3.4 to 7.9 mm)	C
				6.066 to 6.383-in. (154.08 to 162.13 mm)		0.134 to 0.297-in. (3.4 to 7.5 mm)	D
Sensor Size 2	6-in. (150 mm)	6.93-in. (176.02 mm)	060	5.250 to 5.472-in. (133.35 to 139.99 mm)	0.134 to 1.354-in. (3.4 to 34.4 mm)	0.134 to 1.132-in. (3.4 to 28.7 mm)	A
				5.473 to 5.760-in. (139.01 to 146.30 mm)		0.134 to 1.067-in. (3.4 to 27.1 mm)	B
				5.761 to 6.065-in. (146.33 to 154.05 mm)		0.134 to 1.05-in. (3.4 to 26.7 mm)	C
				6.066 to 6.383-in. (154.08 to 162.13 mm)		0.134 to 1.037-in. (3.4 to 26.3 mm)	D
Sensor Size 1	7-in. (180 mm)	7.93-in. (201.42 mm)	070	6.384 to 6.624-in. (162.15 to 168.25 mm)	0.134 to 0.614-in. (3.4 to 15.6 mm)	0.134 to 0.374-in. (3.4 to 9.5 mm)	B
				6.625 to 7.023-in. (168.28 to 178.38 mm)		0.134 to 0.216-in. (3.4 to 5.5 mm)	C
				7.024 to 7.392-in. (178.41 to 187.76 mm)		0.134 to 0.246-in. (3.4 to 6.2 mm)	D
Sensor Size 2	7-in. (180 mm)	7.93-in. (201.42 mm)	070	6.384 to 6.624-in. (162.15 to 168.25 mm)	0.134 to 1.354-in. (3.4 to 34.4 mm)	0.134 to 1.114-in. (3.4 to 28.3 mm)	B
				6.625 to 7.023-in. (168.28 to 178.38 mm)		0.134 to 0.956-in. (3.4 to 24.3 mm)	C
				7.024 to 7.392-in. (178.41 to 187.76 mm)		0.134 to 0.986-in. (3.4 to 25.0 mm)	D
Sensor Size 1	8-in. (200 mm)	9.688-in. (246.08 mm)	080	7.393 to 7.624-in. (187.78 to 193.65 mm)	0.250 to 0.73-in. (6.4 to 18.5 mm)	0.250 to 0.499-in. (6.4 to 12.6 mm)	B
				7.625 to 7.981-in. (193.68 to 202.72 mm)		0.250 to 0.374-in. (6.4 to 9.5 mm)	C
				7.982 to 8.400-in. (202.74 to 213.36 mm)		0.250 to 0.312-in. (6.4 to 7.9 mm)	D
				8.401 to 8.766-in. (213.39 to 222.66 mm)		0.250 to 0.364-in. (6.4 to 9.2 mm)	E
Sensor Size 2	8-in. (200 mm)	9.688-in. (246.08 mm)	080	7.393 to 7.624-in. (187.78 to 193.65 mm)	0.250 to 1.47-in. (6.4 to 37.3 mm)	0.250 to 1.239-in. (6.4 to 31.4 mm)	B
				7.625 to 7.981-in. (193.68 to 202.72 mm)		0.250 to 1.114-in. (6.4 to 28.3 mm)	C
				7.982 to 8.400-in. (202.74 to 213.36 mm)		0.250 to 1.052-in. (6.4 to 26.7 mm)	D
				8.401 to 8.766-in. (213.39 to 222.66 mm)		0.250 to 1.104-in. (6.4 to 28.0 mm)	E

	10-in. (250 mm)	11.75-in. (298.45 mm)	100	8.767 to 9.172-in. (222.68 to 232.97 mm)	0.250 to 1.470-in. (6.4 to 37.3 mm)	0.250 to 1.065-in. (6.4 to 27.1 mm)	A
				9.173 to 9.561-in. (232.99 to 242.85 mm)		0.250 to 1.082-in. (6.4 to 27.5 mm)	B
				9.562 to 10.020-in. (242.87 to 254.51 mm)		0.250 to 1.012-in. (6.4 to 25.7 mm)	C
				10.021 to 10.546-in. (254.53 to 267.87 mm)		0.250 to 0.945-in. (6.4 to 24.0 mm)	D
				10.547 to 10.999-in. (267.89 to 279.37 mm)		0.250 to 1.018-in. (6.4 to 25.9 mm)	E
	12-in. (300 mm)	13.0375-in. (331.15 mm)	120	11.000 to 11.373-in. (279.40 to 288.87 mm)	0.250 to 1.470-in. (6.4 to 37.3 mm)	0.250 to 1.097-in. (6.4 to 27.9 mm)	B
				11.374 to 11.938-in. (288.90 to 303.23 mm)		0.250 to 0.906-in. (6.4 to 23.0 mm)	C
				11.939 to 12.250-in. (303.25 to 311.15 mm)		0.250 to 1.159-in. (6.4 to 29.4 mm)	D

485 Dimensional Drawings

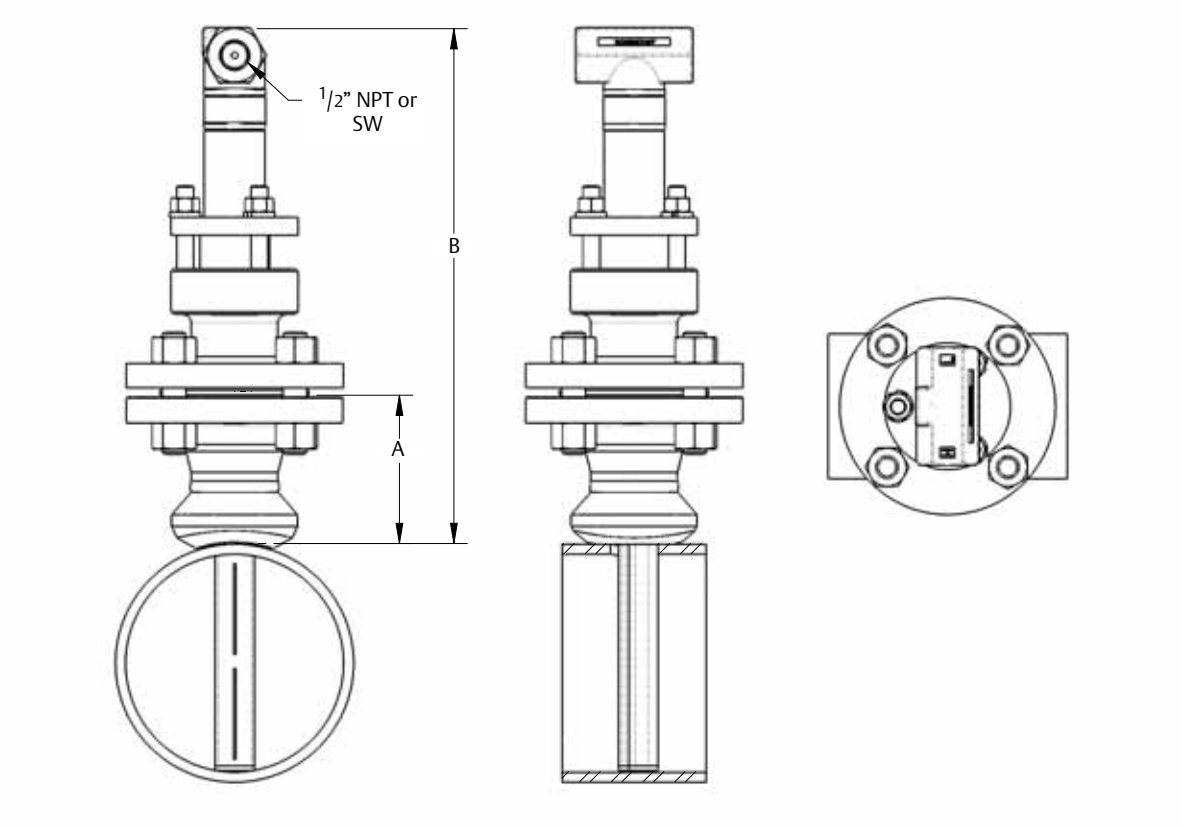
Rosemount 485 Pak-Lok Annubar Primary[1]		
Front View	**Side View**	**Top View**
		

(1) The Pak-Lok Annubar model is available up to 600# ANSI (1440 psig at 100 °F (99 bar at 38 °C)).

Table 13. 485 Pak-Lok Annubar Primary Dimensional Data

Sensor Size	A (Max)
1	8.50 (215.9)
2	11.00 (279.4)
3	12.00 (304.8)
Dimensions are in inches (millimeters)	

Rosemount 485 Flange-Lok Annubar Primary[1]		
Front View	**Side View**	**Top View**



(1) The Flange-Lok Annubar model can be direct mounted up to 600# ANSI (1440 psig at 100 °F (99 bar at 38 °C)).

Table 14. 485 Flange-Lok Annubar Primary Dimensional Data

Sensor Size	Flange Size and Rating	A ± 0.125 (3.2)	B ± 0.25 (6.4)
1	1 1/2 – 150#	3.88 (98.6)	12.25 (311.2)
1	1 1/2 – 300#	4.13 (104.9)	12.25 (311.2)
1	1 1/2 – 600#	4.44 (112.8)	12.25 (311.2)
1	DN40/PN16	3.09 (78.5)	12.25 (311.2)
1	DN40/PN40	3.21 (81.5)	12.25 (311.2)
1	DN40/PN100	3.88 (98.6)	12.25 (311.2)
2	2 – 150#	4.13 (104.9)	14.25 (362.0)
2	2 – 300#	4.38 (111.3)	14.25 (362.0)
2	2 – 600#	4.75 (120.7)	14.25 (362.0)
2	DN50/PN16	3.40 (86.4)	14.25 (362.0)
2	DN50/PN40	3.52 (89.4)	14.25 (362.0)
2	DN50/ PN100	4.30 (109.2)	14.25 (362.0)
3	3 – 150#	4.63 (117.6)	17.50 (444.5)
3	3 – 300#	5.00 (127.0)	17.50 (444.5)
3	3 – 600#	5.38 (136.7)	17.50 (444.5)
3	DN80/PN16	3.85 (97.8)	17.50 (444.5)

Table 14. 485 Flange-Lok Annubar Primary Dimensional Data

Sensor Size	Flange Size and Rating	A ± 0.125 (3.2)	B ± 0.25 (6.4)
3	DN80/PN40	4.16 (105.7)	17.50 (444.5)
3	DN80/ PN100	4.95 (125.7)	17.50 (444.5)
Dimensions are in inches (millimeters)			

Rosemount 485 Flanged Annubar Primary

Front View	Side View	Top View

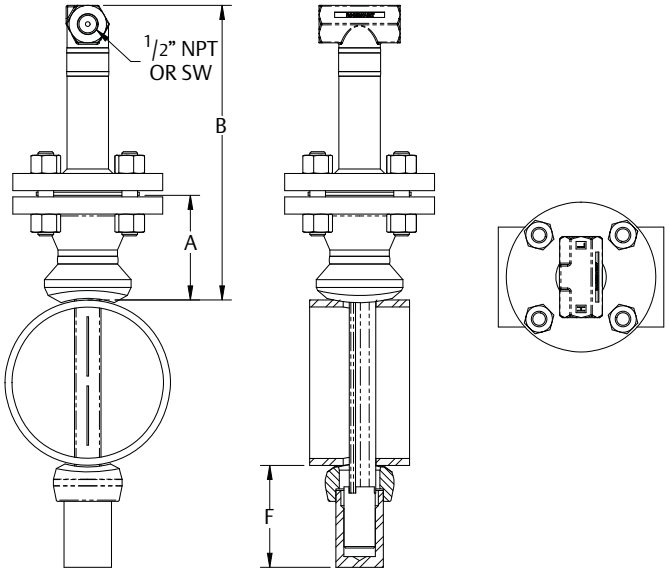


Table 15. 485 Flanged Annubar Primary Dimensional Data

Sensor Size	Flange Size and Rating	A ± 0.125 (3.2)	B ± 0.25 (6.4)	F (Max)
1	1 1/2 – 150#	3.88 (98.6)	11.00 (279.4)	3.50 (88.9)
1	1 1/2 – 300#	4.13 (104.9)	11.00 (279.4)	3.50 (88.9)
1	1 1/2 – 600#	4.44 (112.8)	11.00 (279.4)	3.50 (88.9)
1	DN40/PN16	3.09 (78.5)	11.00 (279.4)	3.50 (88.9)
1	DN40/PN40	3.21 (81.5)	11.00 (279.4)	3.50 (88.9)
1	DN40/ PN100	3.88 (98.6)	11.00 (279.4)	3.50 (88.9)
1	1 1/2 – 900#	4.94 (125.5)	9.31 (236.5)	3.50 (88.9)
1	1 1/2 – 1500#	4.94 (125.5)	9.31 (236.5)	3.50 (88.9)
1	1 1/2 – 2500#	6.76 (171.7)	11.63 (295.4)	4.00 (101.6)
2	2 – 150#	4.13 (104.9)	12.00 (304.8)	5.00 (127.0)
2	2 – 300#	4.38 (111.3)	12.00 (304.8)	5.00 (127.0)
2	2 – 600#	4.75 (120.7)	12.00 (304.8)	5.00 (127.0)
2	DN50/PN16	3.40 (86.4)	12.00 (304.8)	5.00 (127.0)
2	DN50/PN40	3.52 (89.4)	12.00 (304.8)	5.00 (127.0)
2	DN50/ PN100	4.30 (109.2)	12.00 (304.8)	5.00 (127.0)
2	2 – 900#	5.88 (149.4)	10.50 (266.7)	5.00 (127.0)
2	2 – 1500#	5.88 (149.4)	10.50 (266.7)	5.00 (127.0)
2	3 – 2500#	9.88 (251.0)	15.63 (397.0)	4.50 (114.3)
3	3 – 150#	4.63 (117.6)	13.50 (342.9)	4.00 (101.6)
3	3 – 300#	5.00 (127.0)	13.50 (342.9)	4.00 (101.6)
3	3 – 600#	5.38 (136.7)	13.50 (342.9)	4.00 (101.6)
3	DN80/PN16	3.85 (97.8)	13.50 (342.9)	4.00 (101.6)
3	DN80/PN40	4.16 (105.7)	13.50 (342.9)	4.00 (101.6)
3	DN80/ PN100	4.95 (125.7)	13.50 (342.9)	4.00 (101.6)
3	4 – 900#	8.19 (208.0)	13.06 (331.7)	7.00 (177.8)
3	4 – 1500#	8.56 (217.4)	13.81 (350.8)	7.00 (177.8)
3	4 – 2500#	11.19 (284.2)	17.31 (439.7)	7.00 (177.8)
Dimensions are in inches (millimeters)				

Rosemount 485 Flanged Flo-Tap Annubar Primary

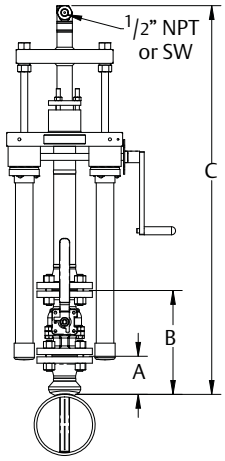
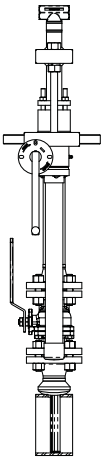
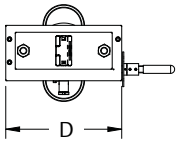
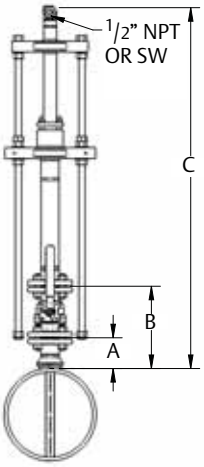
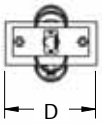
	Front View	Side View	Top View
Gear Drive			
Manual			

Table 16. 485 Flanged Flo-Tap Annubar Primary Dimensional Data

Sensor Size	Flange Size and Rating	A ± 0.125 (3.2)	B ± 0.25 (6.4)	C[I] (Max) (Gear Drive)	C[I] (Max) (Manual)	D (Max)
1	1 1/2 – 150#	3.88 (98.6)	10.50 (266.7)	—	**17.77 (451.4)**	10.50 (266.7)
1	1 1/2 – 300#	4.13 (104.9)	11.75 (298.5)	—	**17.77 (451.4)**	10.50 (266.7)
1	1 1/2 – 600#	4.44 (112.8)	14.06 (357.2)	—	**17.77 (451.4)**	10.50 (266.7)
1	DN40/PN16	3.09 (78.5)	See Note (1)	—	**17.77 (451.4)**	10.50 (266.7)
1	DN40/PN40	3.21 (81.5)	See Note (1)	—	**17.77 (451.4)**	10.50 (266.7)
1	DN40/PN100	3.88 (98.6)	See Note (1)	—	**17.77 (451.4)**	10.50 (266.7)
2	2 – 150#	4.13 (104.9)	11.25 (285.8)	24.44 (620.8)	21.20 (538.5)	12.56 (319.0)
2	2 – 300#	4.38 (111.3)	13.00 (330.2)	24.44 (620.8)	21.20 (538.5)	12.56 (319.0)
2	2 – 600#	4.75 (120.7)	16.38 (416.0)	24.44 (620.8)	21.20 (538.5)	12.56 (319.0)
2	DN50/PN16	3.40 (86.4)	See Note (1)	24.44 (620.8)	21.20 (538.5)	12.56 (319.0)
2	DN50/PN40	3.52 (89.4)	See Note (1)	24.44 (620.8)	21.20 (538.5)	12.56 (319.0)
2	DN50/PN100	4.30 (109.2)	See Note (1)	24.44 (620.8)	21.20 (538.5)	12.56 (319.0)
3	3 – 150#	4.63 (117.6)	12.75 (323.9)	26.37 (669.8)	23.14 (587.8)	14.13 (358.9)
3	3 – 300#	5.00 (127.0)	16.25 (412.8)	26.37 (669.8)	23.14 (587.8)	14.13 (358.9)
3	3 – 600#	5.38 (136.7)	19.50 (495.4)	26.37 (669.8)	23.14 (587.8)	14.13 (358.9)
3	DN80/PN16	3.85 (97.8)	See Note (1)	26.37 (669.8)	23.14 (587.8)	14.13 (358.9)
3	DN80/PN40	4.16 (105.7)	See Note (1)	26.37 (669.8)	23.14 (587.8)	14.13 (358.9)

Table 16. 485 Flanged Flo-Tap Annubar Primary Dimensional Data

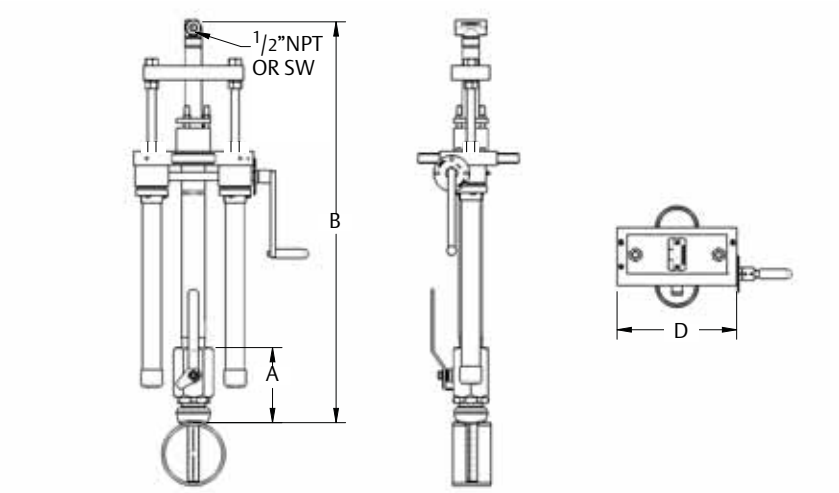
Sensor Size	Flange Size and Rating	A ± 0.125 (3.2)	B ± 0.25 (6.4)	C^1 (Max) (Gear Drive)	C^1 (Max) (Manual)	D (Max)
3	DN80/PN100	4.95 (125.7)	See Note (1)	26.37 (669.8)	23.14 (587.8)	14.13 (358.9)
	Use the appropriate formula to determine C value: *Inserted formula:* Pipe I.D. + Wall Thickness + Value B + C^1 (use the Manual Drive or Gear drive values for C^1) *Retracted formula:* [2 x (Pipe I.D. + Wall Thickness + Value B)] + C^1 (use the Manual Drive or Gear drive values for C^1)					
Dimensions are in inches (millimeters)						

(1) DIN Valves are not offered.

Rosemount 485 Threaded Flo-Tap Annubar Primary

Front View	Side View	Top View

Gear Drive



Front View	Side View	Top View

Manual

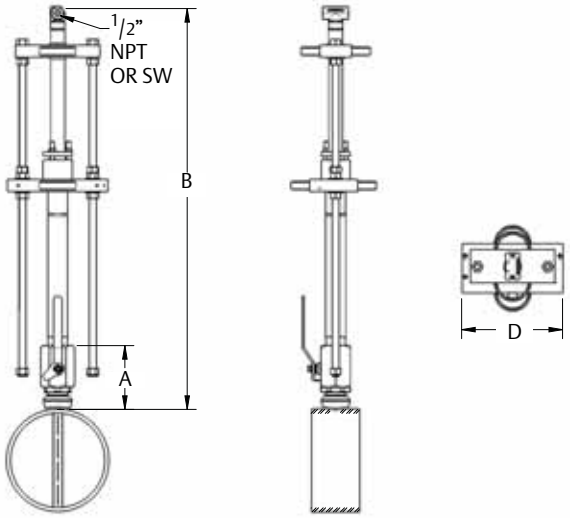


Table 17. 485 Threaded Flo-Tap Annubar Primary Dimensional Data

Sensor Size	A ± 0.50 (12.7)	B[I] (Max) (Gear Drive)	B[I] (Max) (Manual)	D (Max)
1	7.51 (190.9)	—	16.96 (430.8)	10.50 (266.7)
2	8.17 (207.5)	23.62 (599.9)	20.39 (517.9)	12.56 (319.0)

Sensor Size 3 is not available in a Threaded Flo-Tap.

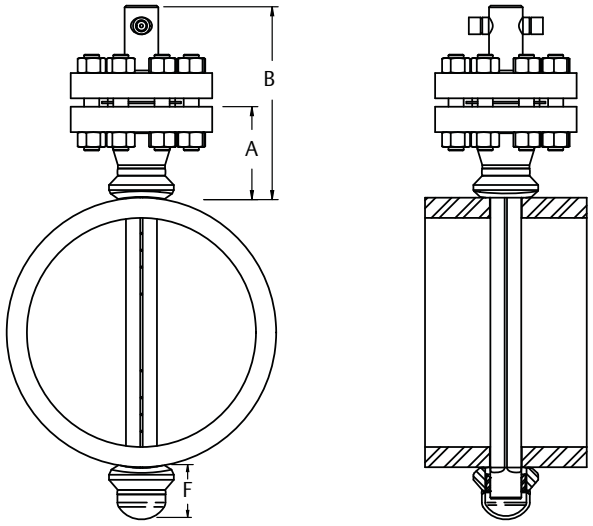
Inserted, B Dimension = Pipe I.D. + Wall Thickness + A + B[I]

Retracted, B Dimension = 2 x (Pipe I.D. + Wall Thickness + A) + B[I]

Rosemount 585 dimensional drawings

Rosemount 585 Flanged w/ Opposite Side Support Annubar Primary

Front View	Side View



Note: Dimensions are shown with a remote-mount connection. Using direct-mount will add 0.15-in. for sensor size 11 and 22 or 3.15-in. for sensor size 44 to Dimension B.

Table 18. 585 Flanged w/ Opposite Side Support Annubar Dimensional Data

Sensor Size	Flange Size and Rating	A ± 0.125 (3.2)	B ± 0.25 (6.4)	F (Max)
11	1 1/2-in.– 150#	3.88 (98.6)	9.70 (246.4)	3.10 (78.7)
11	1 1/2-in. – 300#	4.13 (104.9)	10.07 (255.8)	3.10 (78.7)
11	1 1/2-in. – 600#	4.44 (112.8)	10.70 (271.8)	3.10 (78.7)
11	DIN40/PN16	3.21 (81.5)	9.05 (229.9)	3.10 (78.7)
11	DIN40/PN40	3.21 (81.5)	9.05 (229.9)	3.10 (78.7)
11	DIN40/ PN100	3.88 (98.6)	10.03 (254.8)	3.10 (78.7)
11	1 1/2-in. – 900#	4.94 (125.5)	11.57 (293.9)	3.60 (91.4)
11	1 1/2-in. – 1500#	4.94 (125.5)	11.57 (293.9)	3.60 (91.4)
11	1 1/2-in. – 2500#	6.75 (171.5)	13.88 (352.6)	3.60 (91.4)
22	2-in. – 150#	4.13 (104.9)	10.01 (254.3)	4.50 (114.3)

Table 18. 585 Flanged w/ Opposite Side Support Annubar Dimensional Data

Sensor Size	Flange Size and Rating	A ± 0.125 (3.2)	B ± 0.25 (6.4)	F (Max)
22	2-in. – 300#	4.38 (111.3)	10.38 (263.7)	4.50 (114.3)
22	2-in. – 600#	4.75 (120.7)	11.13 (282.7)	4.50 (114.3)
22	DIN50/PN16	3.40 (86.4)	9.24 (234.7)	4.50 (114.3)
22	DIN50/PN40	3.52 (89.4)	9.44 (239.8)	4.50 (114.3)
22	DIN50/ PN100	4.30 (109.2)	10.53 (267.5)	4.50 (114.3)
22	2-in. – 900#	5.88 (149.4)	12.76 (324.1)	4.50 (114.3)
22	2-in. – 1500#	5.88 (149.4)	12.76 (324.1)	4.50 (114.3)
22	3-in. – 2500#	9.88 (250.1)	17.88 (454.2)	4.50 (114.3)
44	3-in. – 150#	4.63 (117.6)	10.69 (271.5)	3.90 (99.1)
44	3-in. – 300#	5.00 (127.0)	11.26 (286.6)	3.90 (99.1)
44	3-in. – 600#	5.38 (136.7)	12.00 (304.8)	3.90 (99.1)
44	DIN80/PN16	3.85 (97.8)	9.77 (248.2)	3.90 (99.1)
44	DIN80/PN40	4.16 (105.7)	10.23 (259.8)	3.90 (99.1)
44	DIN80/ PN100	4.95 (125.7)	11.34 (288.8)	3.90 (99.1)
44	4-in. – 900#	8.19 (208.8)	15.32 (389.1)	6.40 (162.6)
44	4-in. – 1500#	8.56 (217.4)	16.07 (408.2)	6.40 (162.6)
44	4-in. – 2500#	11.19 (284.2)	19.57 (497.1)	6.40 (162.6)
Dimensions are in inches (millimeters)				

Rosemount 585 Main Steam Annubar w/ Opposite Side Support Annubar Primary

Front View | **Top View**

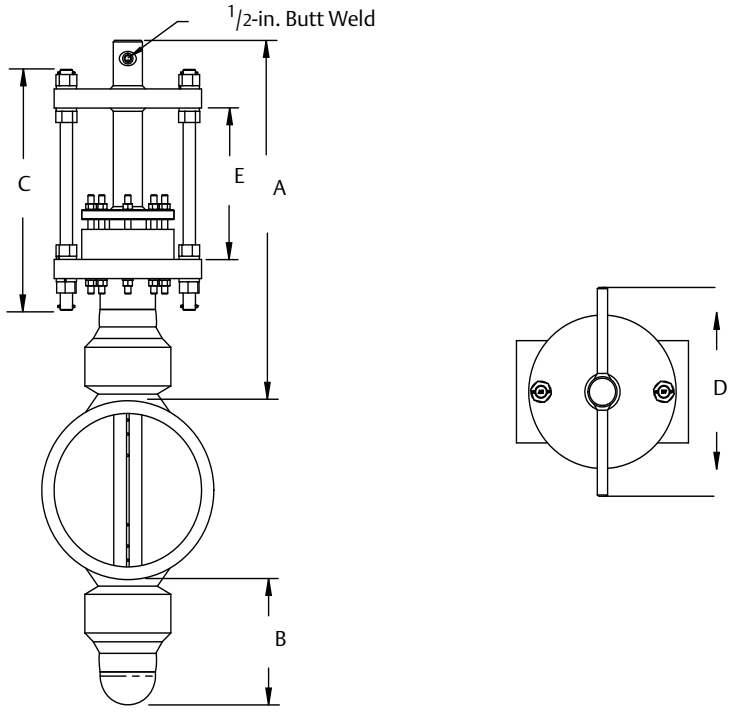


Table 19. 585 Main Steam Annubar w/ Opposite Side Support Annubar Dimensional Data

Sensor Size	A (Max)	B	C	D	E
44	29.67 (753.6)	10.0 (254)	19.0 (483)	16.33 (414.0)	11.0 (279)
Dimensions are in inches (millimeters)					

Note

Locking rods are always located 90° from the instrument connections. For horizontal installations, the instrument connections will be parallel to the pipe. For vertical installations, the instrument connections will be perpendicular to the pipe.

Rosemount 585 Flanged Flo-Tap Annubar Primary

Front View | **Top View**

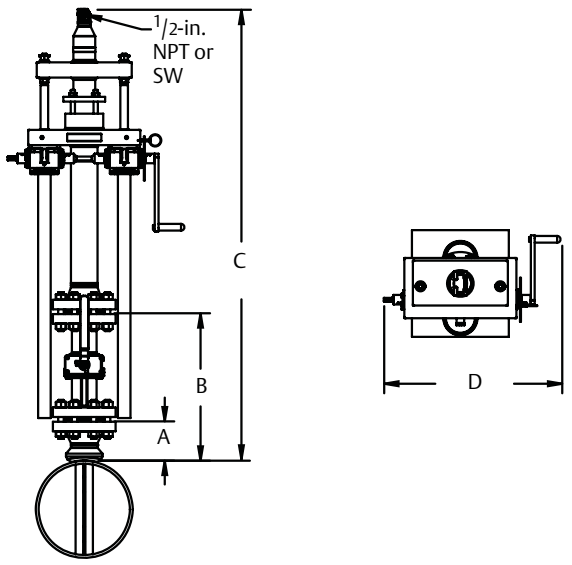


Table 20. 585 Flanged Flo-Tap Annubar Primary Dimensional Data

Sensor Size	Flange Size and Rating	A ± 0.125 (3.2)	B ± 0.25 (6.4)	C[1] (Max) (Gear Drive)	D (Max)
44	3 – 150#	4.63 (117,6)	12.75 (323,9)	26.1 (662.9)	23.3 (591,8)
44	3 – 300#	5.00 (127,0)	16.25 (412,8)	26.1 (662.9)	23.3 (591,8)
44	3 – 600#	5.38 (136,7)	19.50 (495,4)	26.1 (662.9)	23.3 (591,8)
	Use the appropriate formula to determine C value: *Inserted formula:* Pipe I.D. + Wall Thickness + Value B + C[1] (use the Gear drive values for C[1]) *Retracted formula:* [2 x (Pipe I.D. + Wall Thickness + Value B)] + C[1] (use the Gear drive values for C[1])				
Dimensions are in inches (millimeters)					

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