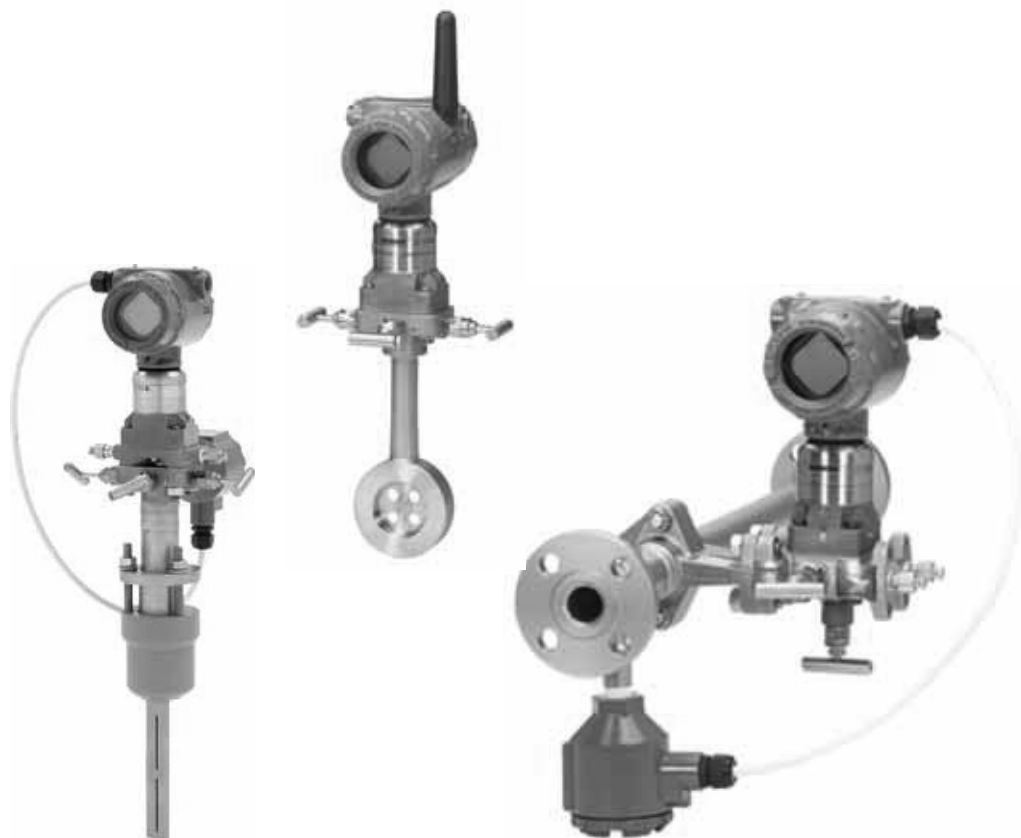


Rosemount 3051SF DP Flowmeters



- Direct or remote mount configurations available
- Up to 0.80% mass flow rate accuracy
- MultiVariable capabilities allow for real time fully compensated mass and energy flow
- Advanced diagnostics predict and prevent abnormal process conditions
- Installation ready wireless flow solution
- Ultra for Flow measures percent-of-reading performance over 14:1 flow turndown
- 10-year stability, 12-year warranty

Rosemount 3051SF DP Flowmeters



Rosemount 3051SF Flowmeters integrate industry leading transmitters with industry leading primary elements. Capabilities include:

- Flowmeters are factory configured to meet your application needs (Configuration Data Sheet required)
- MultiVariable capabilities allow scalable flow compensation (Measurement Types 1-7)
- HART 4-20, Wireless, and FOUNDATION fieldbus protocols
- Ultra for Flow for improved flow performance across wider flow ranges
- Integral temperature measurement (Option Code T)
- Advanced Diagnostics (Option Code DA2)
- Direct or remote mount configurations available

Additional Information

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Installation and Flowmeter Orientation	Click Here



Rosemount 3051SFA Annubar Flowmeter

- Annubar flowmeters reduce permanent pressure loss by creating less blockage in the pipe
- Ideal for large line size installations when cost, size and weight of the flowmeter are concerns

Table 1. Rosemount 3051SFA Annubar Flowmeter 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	Product Description	Measurement Type		• = Available — = Unavailable
		D	1-7	
3051SFA	Annubar Flowmeter	•	•	
Measurement Type				
Standard				Standard
1	Fully Compensated Mass & Energy Flow Calculations – Differential & Static Pressures w/Temperature	—	•	★
2	Compensated Flow Calculations – Differential & Static Pressures	—	•	★
3	Compensated Flow Calculations – Differential Pressure & Temperature	—	•	★
4	Compensated Flow Calculations – Differential Pressure	—	•	★
D	Differential Pressure	•	—	★
Expanded				
5	Process Variables Only (No Flow Calculations) – Differential & Static Pressures with Temperature	—	•	
6	Process Variables Only (No Flow Calculations) – Differential & Static Pressures	—	•	
7	Process Variables Only (No Flow Calculations)	—	•	
Fluid Type				
Standard				Standard
L	Liquid	•	•	★
G	Gas	•	•	★
S	Steam	•	•	★
Line Size				
Standard				Standard
020	2-in. (50 mm)	•	•	★
025	2½-in. (63.5 mm)	•	•	★
030	3-in. (80 mm)	•	•	★
035	3½-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)	•	•	

Table 1. Rosemount 3051 SFA Annubar Flowmeter 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.

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)	•	•	
Expanded				
780	78-in. (1950 mm)	•	•	
840	84-in. (2100 mm)	•	•	
900	90-in. (2250 mm)	•	•	
960	96-in. (2400 mm)	•	•	
Pipe I.D. Range				
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 Line Sizes greater than 12-in. (300 mm)	•	•	
Pipe Material / Mounting 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		D	1-7	
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	•	•	★

Table 1. Rosemount 3051 SFA Annubar Flowmeter 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.

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)			•	•	★
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			•	•	★
Expanded						
Packing Gland – Required for Flo-Tap Models						
	Packing Gland Material	Rod Material	Packing Material			
J ⁽³⁾	Stainless Steel Packing Gland / Cage Nipple	Carbon Steel	PTFE	•	•	
K ⁽³⁾	Stainless Steel Packing Gland / Cage Nipple	Stainless Steel	PTFE	•	•	
L ⁽³⁾	Stainless Steel Packing Gland / Cage Nipple	Carbon Steel	Graphite	•	•	
N ⁽³⁾	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				D	1-7	
Standard						Standard
0 ⁽¹⁾	Not Applicable or Customer Supplied			•	•	★

Table 1. Rosemount 3051SFA Annubar Flowmeter 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.

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 ⁽⁴⁾	Integral RTD – not available with Flanged model greater than class 600#	•	•	★
0 ⁽⁵⁾	No Temperature Sensor	•	•	★
Expanded				
R ⁽⁴⁾	Remote Thermowell and RTD	•	•	
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 (1/2-in. FNPT)	•	•	★
Expanded				
6	Direct-mount, High Temperature 5-valve Manifold – not available with Flanged model greater than class 600	•	•	
8	Remote-mount SW Connections (1/2-in.)	•	•	
Differential Pressure Range				
Standard				Standard
1	0 to 25 in H ₂ O (0 to 62.3 mbar)	•	•	★
2	0 to 250 in H ₂ O (0 to 623 mbar)	•	•	★
3	0 to 1000 in H ₂ O (0 to 2.5 bar)	•	•	★
Static Pressure Range				
Standard				Standard
A ⁽⁶⁾	None	•	•	★
D	Absolute 0 to 800 psia (0 to 55.2 bar)	—	•	★
E ⁽⁷⁾	Absolute 0 to 3626 psia (0 to 250 bar)	—	•	★
J	Gage -14.2 to 800 psig (-0.979 to 55.2 bar)	—	•	★
K ⁽⁷⁾	Gage -14.2 to 3626 psig (-0.979 to 250 bar)	—	•	★
Transmitter Output				
Standard				Standard
A	4–20 mA with digital signal based on HART protocol	•	•	★
F	FOUNDATION fieldbus protocol (requires PlantWeb housing)	•	—	★
X ⁽⁸⁾	Wireless (Requires wireless options and Wireless Plantweb housing)	•	—	★

Table 1. Rosemount 3051SFA Annubar Flowmeter 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.

Transmitter Housing Style		Material	Conduit Entry Size			
Standard						Standard
00	None (Customer-supplied electrical connection)			•	—	★
1A	PlantWeb Housing	Aluminum	1/2-14 NPT	•	•	★
1B	PlantWeb Housing	Aluminum	M20 x 1.5	•	•	★
1J	PlantWeb Housing	SST	1/2-14 NPT	•	•	★
1K	PlantWeb Housing	SST	M20 x 1.5	•	•	★
2A	Junction Box Housing	Aluminum	1/2-14 NPT	•	—	★
2B	Junction Box Housing	Aluminum	M20 x 1.5	•	—	★
2E	Junction Box housing with output for remote display and interface	Aluminum	1/2-14 NPT	•	—	★
				D	1-7	
2F	Junction Box housing with output for remote display and interface	Aluminum	M20 x 1.5	•	—	★
2J	Junction Box Housing	SST	1/2-14 NPT	•	—	★
2M	Junction Box housing with output for remote display and interface	SST	1/2-14 NPT	•	—	★
5A ⁽⁹⁾	Wireless PlantWeb housing	Aluminum	1/2-14 NPT	•	—	★
5J ⁽⁹⁾	Wireless PlantWeb housing	SST	1/2-14 NPT	•	—	★
7J ⁽⁸⁾⁽¹⁰⁾	Quick Connect (A size Mini, 4-pin male termination)			•	—	★
Expanded						
1C	PlantWeb Housing	Aluminum	G1/2	•	•	
1L	PlantWeb Housing	SST	G1/2	•	•	
2C	Junction Box Housing	Aluminum	G1/2	•	—	
2G	Junction Box housing with output for remote display and interface	Aluminum	G1/2	•	—	
Transmitter Performance Class				D	1-7	
Standard						Standard
3051S MultiVariable SuperModule, Measurement Types 1, 2, 5, and 6						
3	Ultra for Flow: 0.8% flow rate accuracy, 14:1 flow turndown, 10-year stability, limited 12-year warranty			•	•	★
5	Classic MV: 1.15% flow rate accuracy, 8:1 flow turndown, 5-yr. stability			—	•	★
3051S Single Variable SuperModule, Measurement Types 3, 4, 7, and D						
1	Ultra: up to 0.95% flow rate accuracy, 8:1 flow turndown, 10-year stability, limited 12-year warranty			•	—	★
2	Classic: up to 1.4% flow rate accuracy, 8:1 flow turndown, 5-year stability			•	—	★
3 ⁽¹¹⁾	Ultra for Flow: 0.8% flow rate accuracy, 14:1 flow turndown, 10-year stability. limited 12-year warranty			•	•	★

Wireless Options (Requires option code X and wireless PlantWeb housing)

Update Rate, Operating Frequency and Protocol				
Standard				Standard
WA	User Configurable Update Rate	•	—	★
Operating Frequency and Protocol				
Standard				
3	2.4 GHz DSSS, IEC 62591 (WirelessHART)	•	—	★

Table 1. Rosemount 3051 SFA Annubar Flowmeter 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.

Omnidirectional Wireless Antenna				
Standard				
WK	External Antenna	•	—	★
WM	Extended Range, External Antenna	•	—	★
Expanded				
WN	High-Gain, Remote Antenna	•	—	
SmartPower™				
Standard				
1 ⁽¹²⁾	Adapter for Black Power Module (I.S. Power Module Sold Separately)	•	—	★

Other Options (Include with selected model number)

Pressure Testing				
Expanded				
p1 ⁽¹³⁾	Hydrostatic Testing with Certificate	•	•	
pX ⁽¹³⁾	Extended Hydrostatic Testing	•	•	
Special Cleaning				
Expanded				
P2	Cleaning for Special Services	•	•	
PA	Cleaning per ASTM G93 level D (section 11.4)	•	•	
Material Testing		D	1-7	
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				
QC1	Visual & Dimensional Inspection with Certificate	•	•	★
QC7	Inspection & Performance Certificate	•	•	★
Surface Finish				
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				
Q8 ⁽¹⁴⁾	Material Traceability Certificate per EN 10204:2004 3.1	•	•	★
Code Conformance				
Expanded				
J2 ⁽¹⁵⁾	ANSI / ASME B31.1	•	•	
J3 ⁽¹⁵⁾	ANSI / ASME B31.3	•	•	

Table 1. Rosemount 3051SFA Annubar Flowmeter Ordering Information

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery.
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Material Conformance				
Expanded				
J5 ⁽¹⁶⁾	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	•	•	★
Special Dimensions		D	1-7	
Expanded				
VM	Variable Mounting	•	•	
VT	Variable Tip	•	•	
VS	Variable length Spool Section	•	•	
Transmitter Calibration Certification				
Standard				Standard
Q4	Calibration Certificate for Transmitter	•	•	★
QP	Calibration Certificate & Tamper Evident Seal	•	•	★
Quality Certification For Safety				
Standard				Standard
QS ⁽¹⁹⁾⁽²⁵⁾	Prior-use Certificate of FMEDA data	•	—	★
QT ⁽¹⁸⁾⁽¹⁹⁾⁽²⁵⁾	Safety certified to IEC 61508 with certificate of FMEDA data	•	—	★
Product Certifications				
Standard				Standard
E1	ATEX Flameproof	•	•	★
I1	ATEX Intrinsic Safety	•	•	★
IA	ATEX FISCO Intrinsic Safety; for FOUNDATION fieldbus protocol only	•	—	★
N1	ATEX Type n	•	•	★
ND	ATEX Dust	•	•	★
K1	ATEX Flameproof, Intrinsic Safety, Type n, Dust (combination of E1, I1, N1, and ND)	•	•	★

Table 1. Rosemount 3051 SFA Annubar Flowmeter 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.

E4	TIIS Flameproof	•	•	★
E5	FM Explosion-proof, Dust Ignition-proof	•	•	★
I5	FM Intrinsically Safe, Division 2	•	•	★
K5	FM Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E5 and I5)	•	•	★
E6 ⁽¹⁷⁾	CSA Explosion-proof, Dust Ignition-proof, Division 2	•	•	★
Standard				Standard
I6	CSA Intrinsically Safe	•	•	★
K6 ⁽¹⁷⁾	CSA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E6 and I6)	•	•	★
E7	IECEX Flameproof, Dust Ignition-proof	•	•	★
I7	IECEX Intrinsic Safety	•	•	★
K7	IECEX Flameproof, Dust Ignition-proof, Intrinsic Safety, Type n (combination of E7, I7, and N7)	•	•	★
E3	China Flameproof	•	•	★
I3	China Intrinsic Safety	•	•	★
KA ⁽¹⁷⁾	ATEX and CSA Explosion-proof, Intrinsically Safe, Division 2 (combination of E1, I1, E6, and I6)	•	•	★
KB ⁽¹⁷⁾	FM and CSA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E5, E6, I5, and I6)	•	•	★
KC	FM and ATEX Explosion-proof, Intrinsically Safe, Division 2 (combination of E5, E1, I5, and I1)	•	•	★
KD ⁽¹⁷⁾	FM, CSA, and ATEX Explosion-proof, Intrinsically Safe (combination of E5, I5, E6, I6, E1, and I1)	•	•	★
Shipboard Approvals				
Standard				Standard
SBS	American Bureau of Shipping	•	•	★
Sensor Fill Fluid and O-ring Options				
Standard				Standard
L1	Inert Sensor Fill Fluid	•	•	★
L2	Graphite-Filled (PTFE) O-ring	•	•	★
LA	Inert Sensor Fill Fluid and Graphite-Filled (PTFE) O-ring	•	•	★
Digital Display⁽¹⁸⁾				
Standard				Standard
M5	PlantWeb LCD display (Requires PlantWeb housing)	•	•	★
M7 ⁽¹⁹⁾⁽²⁰⁾⁽²¹⁾	Remote mount LCD display and interface, PlantWeb housing, no cable; SST bracket	•	•	★
M8 ⁽¹⁹⁾⁽²⁰⁾	Remote mount LCD display and interface, PlantWeb housing, 50 ft. (15 m) cable; SST bracket	•	•	★
M9 ⁽¹⁹⁾⁽²⁰⁾	Remote mount LCD display and interface, PlantWeb housing, 100 ft. (31 m) cable; SST bracket	•	•	★
Transient Protection				
Standard				Standard
T1 ⁽²²⁾	Transient terminal block	•	•	★
Manifold for Remote Mount Option		D	1-7	
Standard				Standard
F2	3-Valve Manifold, Stainless Steel	•	•	★
F6	5-Valve Manifold, Stainless Steel	•	•	★

Table 1. Rosemount 3051SFA Annubar Flowmeter 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.

Expanded				
F1	3-Valve Manifold, Carbon Steel	•	•	
F3	3-Valve Manifold, Alloy C-276	•	•	
F5	5-Valve Manifold, Carbon Steel	•	•	
F7	5-Valve Manifold, Alloy C-276	•	•	
PlantWeb Control Functionality				
Standard				Standard
A01	FOUNDATION fieldbus Advanced Control Function Block Suite	•	—	★
PlantWeb Diagnostic Functionality				
Standard				Standard
D01	FOUNDATION fieldbus Diagnostics Suite	•	—	★
DA2 ⁽²³⁾	Advanced HART Diagnostic Suite	•	—	★
PlantWeb Enhanced Measurement Functionality				
Standard				Standard
H01 ⁽²⁴⁾	FOUNDATION fieldbus Fully Compensated Mass Flow Block	•	—	★
Cold Temperature				
Standard				Standard
BRR	-60 °F (-51 °C) Cold Temperature Start-up	—	•	★
Alarm Limit⁽¹⁹⁾⁽²⁵⁾				
Standard				Standard
C4	NAMUR Alarm & Saturation Levels, High Alarm	•	•	★
C5	NAMUR Alarm & Saturation Levels, Low Alarm	•	•	★
C6	Custom Alarm & Saturation Levels, High Alarm	•	•	★
C7	Custom Alarm & Saturation Levels, Low Alarm	•	•	★
C8	Low Alarm (Standard Rosemount Alarm & Saturation Levels)	•	•	★
Hardware Adjustments and Ground Screw				
Standard				Standard
D1 ⁽¹⁹⁾⁽²⁵⁾⁽²⁶⁾	Hardware Adjustments (zero, span, alarm, security)	•	—	★
D4	External Ground Screw Assembly	•	•	★
DA ⁽¹⁹⁾⁽²⁵⁾⁽²⁶⁾	Hardware Adjustments (zero, span, alarm, security) & External Ground Screw Assembly	•	—	★
Conduit Plug				
Standard				Standard
DO	316 SST Conduit Plug (standard for all 3051SF Models)	•	•	★
Conduit Electrical Connector				
Standard				Standard
GE ⁽²⁷⁾	M12, 4-pin, Male Connector (eurofast [®])	•	•	★
GM ⁽²⁷⁾	A size Mini, 4-pin, Male Connector (minifast [®])	•	•	★
Typical Model Number: 3051SFA D L 060 D C H P S 2 T1 0 0 0 3 2A A 1A 3				

(1) Provide the “A” dimension for Flanged, Flange-Lok, and Threaded Flo-Tap models. Provide the “B” dimension for Flange Flo-Tap models.

(2) Available in remote mount applications only.

(3) The cage nipple is constructed of 304SST.

(4) Temperature Measurement Option code T or R is required for Measurement Type codes 1, 3, 5, and 7.

(5) Required for Measurement Type codes 2, 4, 6, and D.

- (6) Required for Measurement Type codes 3, 4, 7, and D.
- (7) For Measurement Type 1, 2, 5, and 6 with DP range 1, absolute limits are 0.5 to 2000 psi (0,03 to 137,9 bar) and gage limits are -14.2 to 2000 psig (-0,98 to 137,9 bar).
- (8) Available approvals are FM Intrinsically Safe, Division 2 (option code I5), CSA Intrinsically Safe (option code I6), ATEX Intrinsic Safety (option code I1), and IECEx Intrinsic Safety (option code I7).
- (9) Only available with output code X.
- (10) Available with output code A only.
- (11) Only available with differential pressure ranges 2 and 3, and silicone fill fluid.
- (12) Long-life Power Module must be shipped separately, order Part No. 00753-9220-0001.
- (13) Applies to assembled flowmeter only, mounting not tested.
- (14) Instrument Connections for Remote Mount Options and Isolation Valves for Flo-tap Models are not included in the Material Traceability Certification.
- (15) Not available with Transmitter Connection Platform 6.
- (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) Not available with M20 or G ½ conduit entry size.
- (18) Not available with housing code 7J.
- (19) Not available with output code X.
- (20) Not available with output code F, option code DA2, or option code QT.
- (21) See the 3051S Reference Manual (document number 00809-0100-4801) for cable requirements. Contact an Emerson Process Management representative for additional information.
- (22) Not available with Housing code 5A, 5J, or 7J. External ground screw assembly (option code D4) is included with the T1 option. The T1 option is not needed with FISCO Product Certifications, transient protection is included with the FISCO Product Certification code IA.
- (23) Includes Hardware Adjustments (option code D1) as standard. Not available with output code X.
- (24) Requires Rosemount Engineering Assistant version 5.5.1 to configure.
- (25) Not available with Output Protocol code F.
- (26) Not available with housing style codes 2E, 2F, 2G, 2M, 5A, 5J, or 7J.
- (27) Not available with Housing code 5A, 5J, or 7J. Available with Intrinsically Safe approvals only. For FM Intrinsically Safe, Division 2 (option code I5) or FM FISCO Intrinsically Safe (option code IE), install in accordance with Rosemount drawing 03151-1009 to maintain outdoor rating (NEMA 4X and IP66).



Rosemount 3051SFC Compact Orifice Flowmeter

- Compact Conditioning flowmeters reduce straight piping requirements to 2D upstream and 2D downstream from a flow disturbance
- Simple installation of Compact flowmeters between any existing raised-face flanges

Table 2. Rosemount 3051SFC Compact Orifice Flowmeter 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	Product Description	Measurement Type		• = Available — = Unavailable
		D	1-7	
3051SFC	Compact Orifice Flowmeter	•	•	
Transmitter Feature Board Measurement Type				
Standard				Standard
1	Fully Compensated Mass & Energy Flow Calculations – Differential & Static Pressures w/ Temperature	—	•	★
2	Compensated Flow Calculations – Differential & Static Pressures	—	•	★
3	Compensated Flow Calculations – Differential Pressure & Temperature	—	•	★
4	Compensated Flow Calculations – Differential Pressure	—	•	★
D	Differential Pressure	•	—	★
Expanded				
5	Process Variables Only (No Flow Calculations) – Differential & Static Pressures with Temperature	—	•	
6	Process Variables Only (No Flow Calculations) – Differential & Static Pressures	—	•	
7	Process Variables Only (No Flow Calculations)	—	•	
Primary Element Technology				
Standard				Standard
A	Annubar® Averaging Pilot Tube	•	•	★
C	Conditioning Orifice Plate	•	•	★
P	Orifice Plate	•	•	★
Material Type				
Standard				Standard
S	316 SST	•	•	★
Line Size				
Standard				Standard
005 ⁽¹⁾	1/2-in. (15 mm)	•	•	★
010 ⁽¹⁾	1-in. (25 mm)	•	•	★
015 ⁽¹⁾	1 1/2-in. (40 mm)	•	•	★
020	2-in. (50 mm)	•	•	★
030	3-in. (80 mm)	•	•	★
040	4-in. (100 mm)	•	•	★
060	6-in. (150 mm)	•	•	★
080	8-in. (200 mm)	•	•	★
100 ⁽²⁾⁽³⁾	10-in. (250 mm) ^{(2) (3)}	•	•	★
120 ⁽²⁾⁽³⁾	12-in. (300 mm) ^{(2) (3)}	•	•	★

Table 2. Rosemount 3051SFC Compact Orifice Flowmeter Ordering Information

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery.
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Primary Element Type						
Standard						Standard
N000	Annubar Sensor Size 1			•	•	★
N040	0.40 Beta Ratio (1/4)			•	•	★
N065 ⁽⁴⁾	0.65 Beta Ratio (3/4)			•	•	★
Temperature Measurement						
Standard						Standard
T ⁽⁶⁾	Integral RTD			—	•	★
0 ⁽⁵⁾	No Temperature Sensor			•	•	★
Expanded						
R ⁽⁶⁾	Remote Thermowell and RTD			•	•	
Transmitter Connection Platform				D	1-7	
Standard						Standard
3	Direct-mount			•	•	★
7	Remote-mount, NPT Connections			•	•	★
Differential Pressure Range						
Standard						Standard
1	0 to 25 inH ₂ O (0 to 62.3 mbar)			•	•	★
2	0 to 250 inH ₂ O (0 to 623 mbar)			•	•	★
3	0 to 1000 inH ₂ O (0 to 2.5 bar)			•	•	★
Static Pressure Range						
Standard						Standard
A ⁽⁷⁾	None			•	•	★
D	Absolute 0 to 800 psia (0 to 55.2 bar)			—	•	★
E ⁽⁸⁾	Absolute 0 to 3626 psia (0 to 250 bar)			—	•	★
J	Gage -14.2 to 800 psig (-0.979 to 55.2 bar)			—	•	★
K ⁽⁸⁾	Gage -14.2 to 3626 psig (-0.979 to 250 bar)			—	•	★
Transmitter Output						
Standard						Standard
A	4–20 mA with digital signal based on HART protocol			•	•	★
F ⁽⁹⁾	FOUNDATION fieldbus protocol			•	—	★
X ⁽¹⁰⁾⁽¹¹⁾	Wireless			•	—	★
Transmitter Housing Style		Material	Conduit Entry Size			
Standard						Standard
00	None (Customer-supplied electrical connection)			•	—	★
1A	PlantWeb Housing	Aluminum	1/2-14 NPT	•	•	★
1B	PlantWeb Housing	Aluminum	M20 x 1.5	•	•	★
1J	PlantWeb Housing	SST	1/2-14 NPT	•	•	★
1K	PlantWeb Housing	SST	M20 x 1.5	•	•	★
2A	Junction Box Housing	Aluminum	1/2-14 NPT	•	—	★
2B	Junction Box Housing	Aluminum	M20 x 1.5	•	—	★

Table 2. Rosemount 3051SFC Compact Orifice Flowmeter Ordering Information

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery.
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		Material	Conduit Entry Size			
Standard						Standard
2E	Junction Box housing with output for remote display and interface	Aluminum	1/2-14 NPT	•	—	★
2F	Junction Box housing with output for remote display and interface	Aluminum	M20 x 1.5	•	—	★
2J	Junction Box Housing	SST	1/2-14 NPT	•	—	★
2M	Junction Box housing with output for remote display and interface	SST	1/2-14 NPT	•	—	★
5A ⁽¹²⁾	Wireless PlantWeb housing	Aluminum	1/2-14 NPT	•	—	★
5J ⁽¹²⁾	Wireless PlantWeb housing	SST	1/2-14 NPT	•	—	★
7J ⁽¹⁰⁾⁽¹³⁾	Quick Connect (A size Mini, 4-pin male termination)			•	—	★
Expanded						
1C	PlantWeb Housing	Aluminum	G1/2	•	•	
1L	PlantWeb Housing	SST	G1/2	•	•	
2C	Junction Box Housing	Aluminum	G1/2	•	—	
2G	Junction Box housing with output for remote display and interface	Aluminum	G1/2	•	—	
Transmitter Performance Class				D	1-7	
Standard						Standard
3051S MultiVariable SuperModule, Measurement Types 1, 2, 5, and 6				•	•	
3	Ultra for Flow: 0.75% flow rate accuracy, 14:1 flow turndown, 10-yr stability, limited 12-yr warranty			•	•	★
5	Classic MV: 1.10% flow rate accuracy, 8:1 flow turndown, 5-yr stability			—	•	★
3051S Single Variable SuperModule, Measurement Types 3, 4, 7, and D				•	•	
1	Ultra: 0.90% flow rate accuracy, 8:1 flow turndown, 10-yr stability, limited 12-yr warranty			•	—	★
2	Classic: 1.40% flow rate accuracy, 8:1 flow turndown, 5-yr stability			•	—	★
3 ⁽¹⁴⁾	Ultra for Flow: 0.75% flow rate accuracy, 14:1 flow turndown, 10-yr stability, limited 12-yr warranty			•	•	★

Wireless Options (Requires option code X and wireless PlantWeb housing)

Update Rate, Operating Frequency, and Protocol				
Standard				Standard
WA	User Configurable Update Rate	•	—	★
Operating Frequency and Protocol				
Standard				Standard
3	2.4 GHz DSSS, IEC 62591 (WirelessHART)	•	—	★
Omnidirectional Wireless Antenna				
Standard				Standard
WK	External Antenna	•	—	★
WM	Extended Range, External Antenna	•	—	★
Expanded				
WN	High-Gain, Remote Antenna	•	—	
SmartPower™				
Standard				Standard
1 ⁽¹⁵⁾	Adapter for Black Power Module (I.S. Power Module Sold Separately)	•	—	★

Table 2. Rosemount 3051SFC Compact Orifice Flowmeter Ordering Information

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery.
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Other Options (Include with selected model number)

Installation Accessories				
Standard				Standard
A	ANSI Alignment Ring (150#) (Only required for 10-in. (250 mm) and 12-in. (300mm) line sizes)	•	•	★
C	ANSI Alignment Ring (300#) (Only required for 10-in. (250 mm) and 12-in. (300mm) line sizes)	•	•	★
D	ANSI Alignment Ring (600#) (Only required for 10-in. (250 mm) and 12-in. (300mm) line sizes)	•	•	★
G	DIN Alignment Ring (PN 16)	•	•	★
H	DIN Alignment Ring (PN 40)	•	•	★
J	DIN Alignment Ring (PN 100)	•	•	★
Expanded				
B	JIS Alignment Ring (10K)	•	•	
R	JIS Alignment Ring (20K)	•	•	
S	JIS Alignment Ring (40K)	•	•	
Remote Adapters				
Standard				Standard
E	Flange adapters 316 SST (1/2-in. NPT)	•	•	★
High Temperature Applications				
Expanded				
T	Graphite Valve Packing (Tmax = 850 °F)	•	•	
Flow Calibration				
Expanded				
WC ⁽¹⁶⁾	Flow Calibration, 3 Pt, Conditioning Option C (All Pipe Schedules)	•	•	
WD ^{(17) (18)}	Flow Calibration, 10 Pt, Conditioning Option C (All Schedules), Annubar Option A (Schedule 40)	•	•	
Pressure Testing				
Expanded				
P1	Hydrostatic Testing with Certificate	•	•	
Special Cleaning		D	1-7	
Expanded				
p2 ⁽¹⁹⁾	Cleaning for Special Processes	•	•	
PA	Cleaning per ASTM G93 Level D (section 11.4)	•	•	
Special Inspection				
Standard				Standard
QC1	Visual & Dimensional Inspection with Certificate	•	•	★
QC7	Inspection & Performance Certificate	•	•	★
Transmitter Calibration Certification				
Standard				Standard
Q4	Calibration Data Certificate for Transmitter	•	•	★
QP	Calibration Certificate and Tamper Evident Seal	•	•	★
Quality Certification for Safety				
Standard				Standard
QS ⁽²⁰⁾⁽²¹⁾	Prior-use certificate of FMEDA data	•	—	★
QT ⁽²⁰⁾⁽²¹⁾⁽²⁴⁾	Safety Certified to IEC 61508 with certificate of FMEDA data	•	—	★

Table 2. Rosemount 3051SFC Compact Orifice Flowmeter Ordering Information

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Material Traceability Certifications				
Standard				Standard
Q8	Material Traceability Certification per EN 10204:2004 3.1	•	•	★
Code Conformance				
Expanded				
J2	ANSI / ASME B31.1	•	•	
J3	ANSI / ASME B31.3	•	•	
J4	ANSI / ASME B31.8	•	•	
Material Conformance				
Expanded				
J5 ⁽²²⁾	NACE MR-0175 / ISO 15156	•	•	
Country Certification				
Expanded				
J1	Canadian Registration	•	•	
Product Certifications				
Standard				Standard
E1	ATEX Flameproof	•	•	★
I1	ATEX Intrinsic Safety	•	•	★
IA	ATEX FISCO Intrinsic Safety; for FOUNDATION fieldbus protocol only	•	—	★
N1	ATEX Type n	•	•	★
ND	ATEX Dust	•	•	★
K1	ATEX Flameproof, Intrinsic Safety, Type n, Dust (combination of E1, I1, N1, and ND)	•	•	★
E4	TIIS Flameproof	•	•	★
E5	FM Explosion-proof, Dust Ignition-proof	•	•	★
I5	FM Intrinsically Safe, Division 2	•	•	★
K5	FM Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E5 and I5)	•	•	★
E6 ⁽²³⁾	CSA Explosion-proof, Dust Ignition-proof, Division 2	•	•	★
I6	CSA Intrinsically Safe	•	•	★
K6 ⁽²³⁾	CSA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E6 and I6)	•	•	★
E7	IECEx Flameproof, Dust Ignition-proof	•	•	★
I7	IECEx Intrinsic Safety	•	•	★
K7	IECEx Flameproof, Dust Ignition-proof, Intrinsic Safety, Type n (combination of E7, I7, and N7)	•	•	★
E3	China Flameproof	•	•	★
I3	China Intrinsic Safety	•	•	★
Standard				Standard
KA ⁽²³⁾	ATEX and CSA Flameproof, Intrinsically Safe, Division 2 (combination of E1, I1, E6, and I6)	•	•	★
KB ⁽²³⁾	FM and CSA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E5, E6, I5, and I6)	•	•	★
KC	FM and ATEX Explosion-proof, Intrinsically Safe, Division 2 (combination of E5, E1, I5, and I1)	•	•	★
KD ⁽²³⁾	FM, CSA, and ATEX Explosion-proof, Intrinsically Safe (combination of E5, E6, E1, I5, I6, and I1)	•	•	★
Shipboard Approvals		D	1-7	
Standard				Standard
SBS	American Bureau of Shipping	•	•	★

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Sensor Fill Fluid and O-ring Options				
Standard				Standard
L1	Inert Sensor Fill Fluid	•	•	★
L2	Graphite-filled (PTFE) O-ring	•	•	★
LA	Inert sensor fill fluid and graphite-filled (PTFE) O-ring	•	•	★
Digital Display⁽²⁴⁾				
Standard				Standard
M5	PlantWeb LCD display	•	•	★
M7 ⁽²¹⁾⁽²⁵⁾⁽²⁶⁾	Remote mount LCD display and interface, PlantWeb housing, no cable, SST bracket	•	•	★
M8 ⁽²¹⁾⁽²⁵⁾	Remote mount LCD display and interface, PlantWeb housing, 50 ft. (15m) cable, SST bracket	•	•	★
M9 ⁽²¹⁾⁽²⁵⁾	Remote mount LCD display and interface, PlantWeb housing, 100 ft. (31m) cable, SST bracket	•	•	★
Transient Protection				
Standard				Standard
T1 ⁽²⁷⁾	Transient terminal block	•	•	★
Manifold for Remote Mount Option				
Standard				Standard
F2	3-Valve Manifold, SST	•	•	★
F6	5-Valve Manifold, SST	•	•	★
PlantWeb Control Functionality				
Standard				Standard
A01	FOUNDATION fieldbus Advanced Control Function Block Suite	•	—	★
PlantWeb Diagnostic Functionality				
Standard				Standard
D01	FOUNDATION fieldbus Diagnostics Suite	•	—	★
DA2 ⁽²⁸⁾	Advanced HART Diagnostic Suite	•	—	★
PlantWeb Enhanced Measurement Functionality				
Standard				Standard
H01 ⁽²⁹⁾	FOUNDATION fieldbus Fully Compensated Mass Flow Block	•	—	★
Cold Temperature				
Standard				Standard
BRR	-60 °F (-51 °C) Cold Temperature Start-up	•	•	★
Alarm Limit⁽²⁰⁾⁽²¹⁾				
Standard				Standard
C4	NAMUR Alarm & Saturation Levels, High Alarm	•	•	★
C5	NAMUR Alarm & Saturation Levels, Low Alarm	•	•	★
C6	Custom Alarm & Saturation Levels, High Alarm	•	•	★
C7	Custom Alarm & Saturation Levels, Low Alarm	•	•	★
C8	Low Alarm (Standard Rosemount Alarm & Saturation Levels)	•	•	★
Hardware Adjustments and Ground Screw				
Standard				Standard
D1 ⁽²⁰⁾⁽²¹⁾⁽³⁰⁾	Hardware Adjustments (zero, span, alarm, security)	•	—	★
D4	External ground screw assembly	•	•	★
DA ⁽²⁰⁾⁽²¹⁾⁽³⁰⁾	Hardware adjustments (zero, span, alarm, security) and external ground screw assembly	•	—	★

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★ 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.

Conduit Plug				
Standard				Standard
DO	316 SST Conduit Plug	•	•	★
Conduit Electrical Connector				
Standard				Standard
ZE ⁽³¹⁾	M12, 4-pin, Male Connector (eurofast)	•	•	★
ZM	A size Mini, 4-pin, Male Connector (minifast)	•	•	★
Typical Model Number: 3051SFC 1 C S 060 N 065 T 3 2 J A 1 A 3				

- (1) Available with primary element technology P only.
- (2) For the line sizes 10-in. (250 mm) and 12-in. (300 mm) line size, the alignment ring must be ordered (Installation Accessories).
- (3) For the line sizes 10-in. (250 mm) and 12-in. (300 mm) line sizes not available with Primary Element Technology A.
- (4) For 2-in. (50 mm) line sizes the Primary Element Type is 0.6 for Primary Element Technology Code C.
- (5) Required for Measurement Type codes 2, 4, 6, and D.
- (6) Only available with Transmitter Feature Board Measurement Type: 1, 3, 5, 7.
- (7) Required for Measurement Type codes 3, 4, 7, and D.
- (8) For Measurement Type 1, 2, 5, and 6 with DP range 1, absolute limits are 0.5 to 2000 psi (0,03 to 137,9 bar) and gage limits are -14.2 to 2000 psig (-0,98 to 137,9 bar).
- (9) Requires PlantWeb housing.
- (10) Available approvals are FM Intrinsically Safe, Division 2 (option code I5), CSA Intrinsically Safe (option code I6), ATEX Intrinsic Safety (option code I1), and IECEx Intrinsic Safety (option code I7).
- (11) Requires wireless options and wireless PlantWeb housing.
- (12) Only available with output code X.
- (13) Available with output code A only.
- (14) Only available with differential pressure ranges 2 and 3, and silicone fill fluid.
- (15) Long-life Power Module must be shipped separately, order Part No. 00753-9220-0001.
- (16) Available with primary element technology C only.
- (17) Available with primary element technology C or A only.
- (18) For Annubar Option A, consult factory for pipe schedules other than Sch. 40
- (19) Available with primary element technology C or P only.
- (20) Not available with Output Protocol code F.
- (21) Not available with output code X.
- (22) Materials of Construction comply with metallurgical requirements within NACE MR0175/ISO 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.
- (23) Not available with M20 or G ½ conduit entry size.
- (24) Not available with housing code 7J.

- (25) Not available with output code F, option code DA2, or option code QT.
- (26) See the 3051S Reference Manual (document number 00809-0100-4801) for cable requirements. Contact an Emerson Process Management representative for additional information.
- (27) Not available with Housing code 00, 5A, 5J, or 7J. External ground screw assembly (option code D4) is included with the T1 option. The T1 option is not needed with FISCO Product Certifications, transient protection is included with the FISCO Product Certification code IA.
- (28) Includes Hardware Adjustments (option code D1) as standard. Not available with output code X.
- (29) Requires Rosemount Engineering Assistant version 5.5.1 to configure.
- (30) Not available with housing style codes 2E, 2F, 2G, 2M, 5A, 5J, or 7J.
- (31) Not available with Housing code 5A, 5J, or 7J. Available with Intrinsically Safe approvals only. For FM Intrinsically Safe, Division 2 (option code I5) or FM FISCO Intrinsically Safe (option code IE), install in accordance with Rosemount drawing 03151-1009 to maintain outdoor rating (NEMA 4X and IP66).