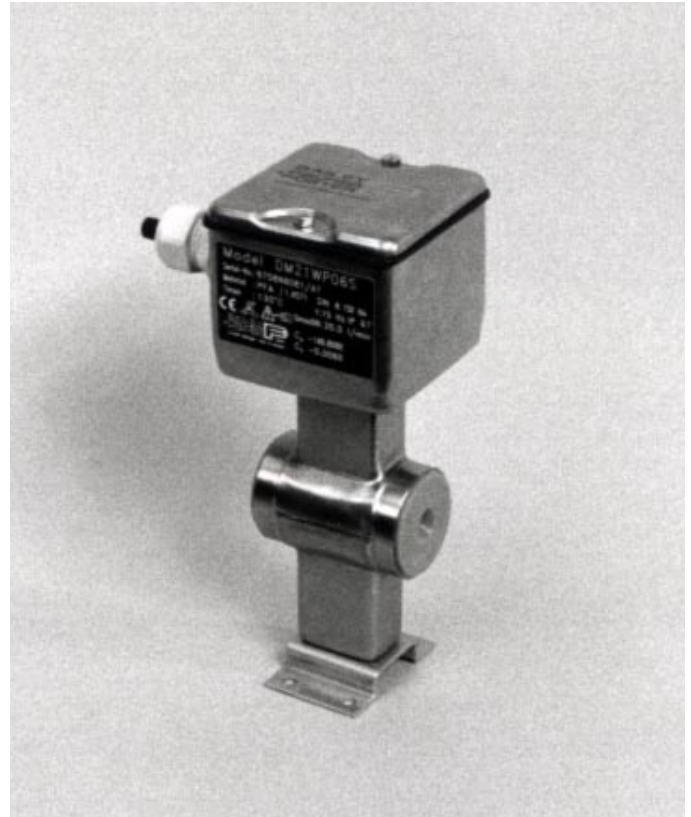


- Stainless Steel Clad Exterior - designed to withstand the chemical washdowns.
- Wafer and Tri-clamp Configurations
- Pharmaceutical Design Available to meet the Strictest Sanitary Requirements: continuous meter bore and crevice free connection adaptor.
- 3A Sanitary Design
- $\pm 0.5\%$ of Rate Standard Accuracy:
 $\pm 0.25\%$ accuracy is optional
- Sized 3/8" to 4"
- PFA or PTFE Teflon® Liners
- Compatible With Remote Microprocessor Based Signal Converters:
To allow field configuration, system diagnostics and superior reliability.



***Sanitary Magnetic Flowmeters
Series DM21***

Series DM21 SANITARY MAGNETIC FLOWMETER

The Series DM21 Magnetic Flowmeter is a pulsed DC type specifically designed for sanitary applications. A characterized non-uniform magnetic field design significantly reduces sensitivity to flow profile effects as compared with traditional magmeters using uniform fields. The meter's coils are powered by a magnet driver unit which provides total zero point stability.

The flowmeter primary is available in a remote configuration with the 50XM1000N Converters. Completely clad in stainless steel, the flowtube is designed to resist caustic washdowns

Engineering Specifications

Minimum Fluid Conductivity: 5µS/cm.

Temperature Limits:

Process: -40°F (-40°C) to 266°F (130°C)

Ambient: -13°F (-25°C) to 140°F (60°C)

Storage: -13°F (-25°C) to 158°F (70°C)

CIP: 302°F (150°C) for a maximum of 60 minutes with an ambient temperature of 77°F (25°C)

Pressure Limits:

580 psig (40 bar) @ 68°F (20°C) (Wafer)

435 psig (30 bar) @ 266°F (130°C) (Wafer)

145 psig (10 bar) @ 266°F (130°C) (Tri-clamp)

Vacuum Limits:

PFA Teflon®: 0 psia (0 bar) @ 266°F (130°C)

PTFE Teflon®: 3.9 psia @ 68°F (20°C)

Enclosure Classification: NEMA 4X and accidental submergence in water up to 33 feet for up to 48 hours (IP67).

Vibration Immunity: 1.5g for 10-150 Hz

System Accuracy: Refer to specification sheets for 50XM1000N converter.

Electrical Connections: 1/2" NPT conduit seal.

Recommended Velocities: For optimum performance, the magnetic flowmeter primary should be sized so that the nominal fluid flow rate falls between 10% and 40% of the maximums listed in Table 1 (4 to 15 ft/s velocity).

Materials of Construction

Meter Spool: 304 Stainless Steel

Liners: Teflon® PFA, Teflon® PTFE

Electrodes: 316 Stainless Steel

Housing & Connection Box: 304 Stainless Steel

Tri-Clamp Process Connections: 304 Stainless Steel

TABLE 2 - WEIGHT TABLE

SIZE		WEIGHT			
		WAFER DESIGN		TRI-CLAMP DESIGN	
INCH	MM	LB	KG	LB	KG
3/8"	10	N/A	N/A	4.4	2.0
1/2"	15	3.5	1.5	4.4	2.0
1"	25	4.5	2.0	6.2	2.8
1-1/2"	40	6.5	3.0	9.7	4.4
2"	50	9	4.0	11.5	5.2
3"	80	14	6.5	20.0	8.9
4"	100	19	8.5	25.5	11.6

TABLE 1 - CAPACITY TABLE

SIZE			FLOW RANGES (0 TO VALUE TABULATED)			
			MINIMUM		MAXIMUM	
INCH	MM	METER CAPACITY GPM	GPM	L/MIN	GPM	L/MIN
3/8"	10	11.9	0.60	2.25	11.8	45.0
1/2"	15	26.4	1.33	5	26.4	100
1"	25	52.8	2.65	10	52.8	200
1-1/2"	40	158.5	7.93	30	158	600
			GPM	M ³ /HR	GPM	M ³ /HR
2"	50	264.4	13.3	3	264	60
3"	80	792.5	39.7	9	792	180
4"	100	1056.7	52.9	12	1056	240

- Notes: 1. Flow Velocity (ft/s) = (Operating GPM x 32.81 ft/s) / Meter Capacity
2. Meter Capacity = Operating Flow at 10 m/s (32.81 ft/s)

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Teflon® is a registered trademark of E.I. DuPont de Nemours & Co.

Hastelloy® is a registered trademark of Haynes International, Inc.

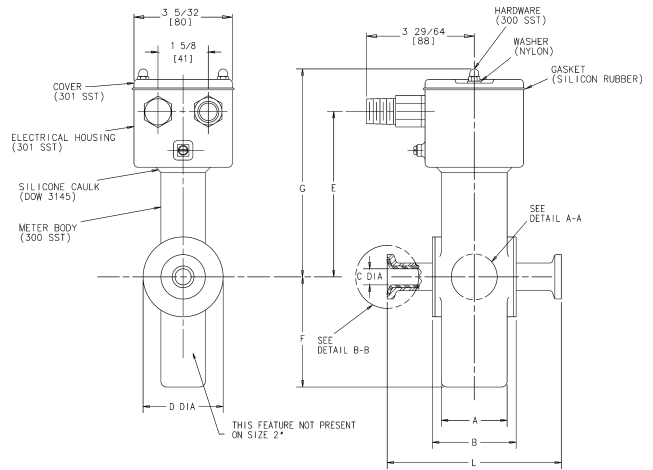
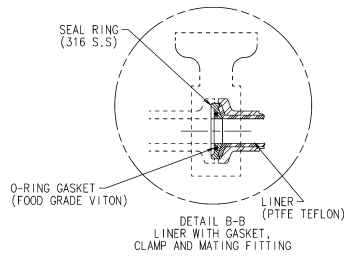
MODEL NUMBER DESIGNATION

DM21

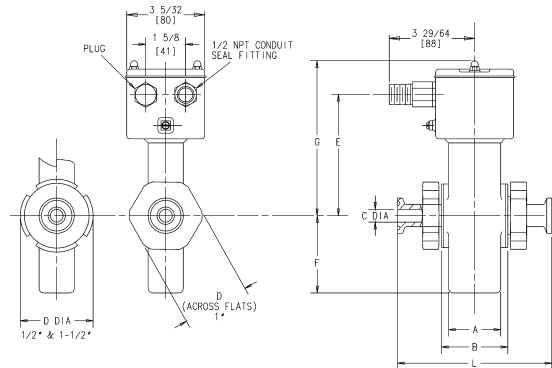
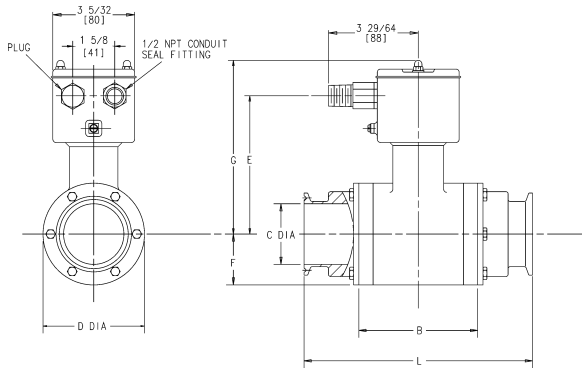
	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
Process Connection															
Wafer	W														
U.S. Tri-Clamp	X														
U.S. Tri-Clamp (Pharmaceutical only)	Y														
Liner Material															
PFA Teflon® (Wafer and U.S. Tri-clamp only)	P														
PTFE Teflon® (Pharmaceutical only)	T														
Meter Size															
■ 3/8" (DN10) (Pharmaceutical Design Only)						10									
1/2" (DN15) (Not available in Pharmaceutical Design) ...						15									
1"(DN25)						25									
1-1/2" (DN40)						40									
2"(DN50)						50									
3"(DN80)						80									
4"(DN100)						1H									
Electrode Material															
316 SST				S											
Pressure Rating															
ANSI Class 150 (Wafer only)						P									
145 psi Max. Pressure (Tri-clamp and Pharmaceutical only)						C									
Process Connection Material															
None (Wafer only)						0									
304 sst (Tri-clamp and Pharmaceutical versions only)						6									
Design															
3A Construction - Drawn SST connection box							C								
3 piece SST terminal box (Wafer or Pharmeceutical only)							W								
Converter / Fluid Temperature Range															
50XM1000N Compatible / <266°F (130°C)								M							
Certifications															
None									A						
3A Construction (must use Drawn SST connection box)									S						
Enclosure Classification															
Accidental Submergence: IEC 529, IP67, NEMA 4X (33 feet of water for 48 hours)										2					
Identification Tag - English															
											E				
Design Level															
												A			
Gasket Material															
PTFE (Wafer version only)													A		
Food Grade O-Ring (Tri-clamp Versions only)														B	
Electrode Design															
Standard															1
Excitation Frequency															
7-1/2 Hz @ 60 Hz Line Frequency (6-1/4 Hz @ 50 Hz), Standard															3
15 Hz @ 60 Hz Line Frequency (12-1/2 Hz @ 50 Hz)															4

■ U. S. Tri-clamp connections for 3/8" and 1/2" meters are identical

Dimensional Drawings



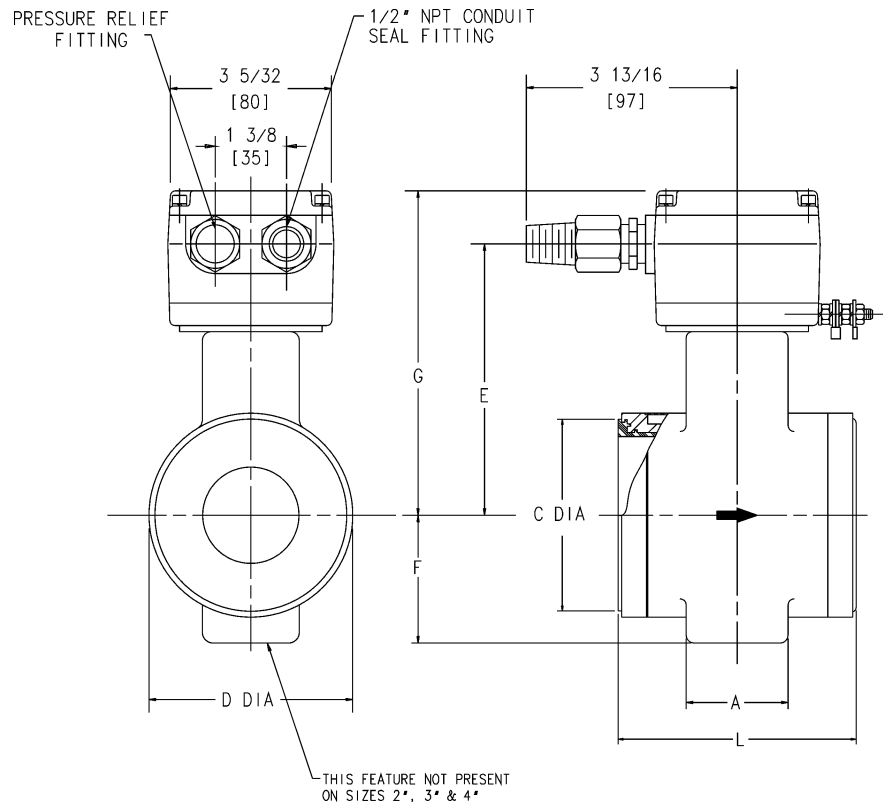
Meter Size	A	B	C Dia.	D Dia.	E	F	G	L
3/8 (10)	1-15/32 (37)	1-55/64 (47)	.357 (9)	1-25/32 (45)	4-1/4 (108)	2-7/16 (62)	5-3/16 (135)	3.855 (98)
1 (25)	2-1/8 (54)	2-9/16 (65)	.850 (22)	2-1/2 (64)	4-11/16 (119)	2-7/8 (73)	5-3/4 (146)	4.564 (116)
1-1/2 (40)	2-5/8 (67)	3-1/16 (78)	1.360 (35)	3-7/32 (82)	5-1/32 (128)	3-7/32 (82)	6-1/8 (155)	5.071 (129)
2 (50)	-	3-19/32 (91)	1.861 (47)	3-15/16 (100)	5-11/32 (136)	1-31/32 (50)	6-13/32 (163)	5.588 (142)



Meter Size	A	B	C Dia.	D Dia.	E	F	G	L
1/2 (15)	1-15/32 (37)	2 (51)	.375 (10)	1-23/32 (44)	4-1/4 (108)	2-7/16 (62)	5-3/16 (135)	6.444 (164)
1 (25)	2-1/8 (54)	2-5/8 (67)	.856 (22)	2-15/16 (75)	4-11/16 (119)	2-7/8 (73)	5-3/4 (146)	7.583 (193)
1-1/2 (40)	2-5/8 (67)	3-5/32 (80)	1.356 (35)	3-1/16 (78)	5-1/32 (128)	3-7/32 (82)	6-1/8 (155)	8.449 (215)
2 (50)	-	5-1/32 (128)	1.865 (47)	3-15/16 (100)	5-11/32 (136)	1-31/32 (50)	6-13/32 (163)	8.403 (213)
3 (80)	-	4-1/2 (114)	2.856 (73)	5-1/4 (133)	6-3/16 (157)	2-5/8 (66.5)	7-1/4 (184)	9.94 (231)
4 (100)	-	5-21/32 (144)	3.810 (97)	6-5/16 (160)	6-15/16 (176)	3-5/32 (80)	8 (203)	10.248 (260)

- Notes:
- 1) All dimensions are in inches, dimensions in brackets [] are in millimeters (mm).
 - 2) Dimensions are guaranteed only if this print is certified.
 - 3) This drawing is a third angle projection as shown.
 - 4) Flow must be in same direction as flow arrow.
 - 5) Meter must be completely filled with liquid to insure accuracy.
 - 6) All dimensions subject to manufacturing tolerances of $\pm 1/8$ (3).

Dimensional Drawings



METER SIZE	A	C DIA	D DIA	E	F	G	L
1/2 (15)	1-15/32 (37)	1-5/8 (42)	1-25/32 (45)	3-11/32 (85)	2-8/16 (62)	4-3/8 (111)	2-11/16 (68)
1 (25)	2-1/8 (54)	2-5/16 (59)	2-15/32 (63)	4-1/16 (108)	2-7/8 (73)	5-1/8 (130)	3-17/32 (90)
1-1/2 (40)	2-5/8 (67)	3-1/32 (77)	3-7/32 (62)	4-13/16 (122)	3-7/32 (82)	5-27/32 (148)	4-1/16 (103)
2 (50)	—	3-3/4 (95)	3-15/16 (100)	5-1/4 (133)	1-31/32 (50)		4-5/8 (117)
3 (80)	—	5-1/32 (128)	5-1/4 (133)	6-1/32 (153)	2-5/8 (66.5)	7-1/32 (180)	4-1/18 (103)
4 (100)	—	6-3/32 (155)	6-5/16 (180)	6-13/16 (173)	3-5/32 (80)	7-27/32 (199)	5-1/4 (133)

NOTE:

- 1) All dimensions are in inches. Dimensions in brackets [] are in millimeters (mm).
- 2) Dimensions are guaranteed only if this print is certified.
- 3) This drawing is a third angle projection as shown.
- 4) Flow must be in same direction as flow arrow.
- 5) Meter must be completely filled with liquid to insure accuracy.
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