

DATTUS™ fM Meters

FM2 & FM3 with 2nd generation electronics (DM2)



The DM2 electronics package is available for the Dattus Basic version in both FM2 and FM3 models. Features include;

- Gas Volume Totaling
- Data Logging (3100 records) available
- Available Fixed Pressure Factor Correction
- Configurable Pulse Outputs
- Sizes from 2M through 38M
- Long life batteries 10 - 12 years
- Configurable Index Orientation

Applications

The Dattus meter is suited for commercial to light industrial loads from 1000 to 38,000 ACFH (30 – 1070 M³). With no moving parts, the Dattus meter is ideal for applications where continuous gas flow to the customer is required. The Dattus meter will not cause an interruption of gas service, which may be important for customers such as hospitals, nursing homes, schools, or factories using processes requiring uninterrupted gas flow.

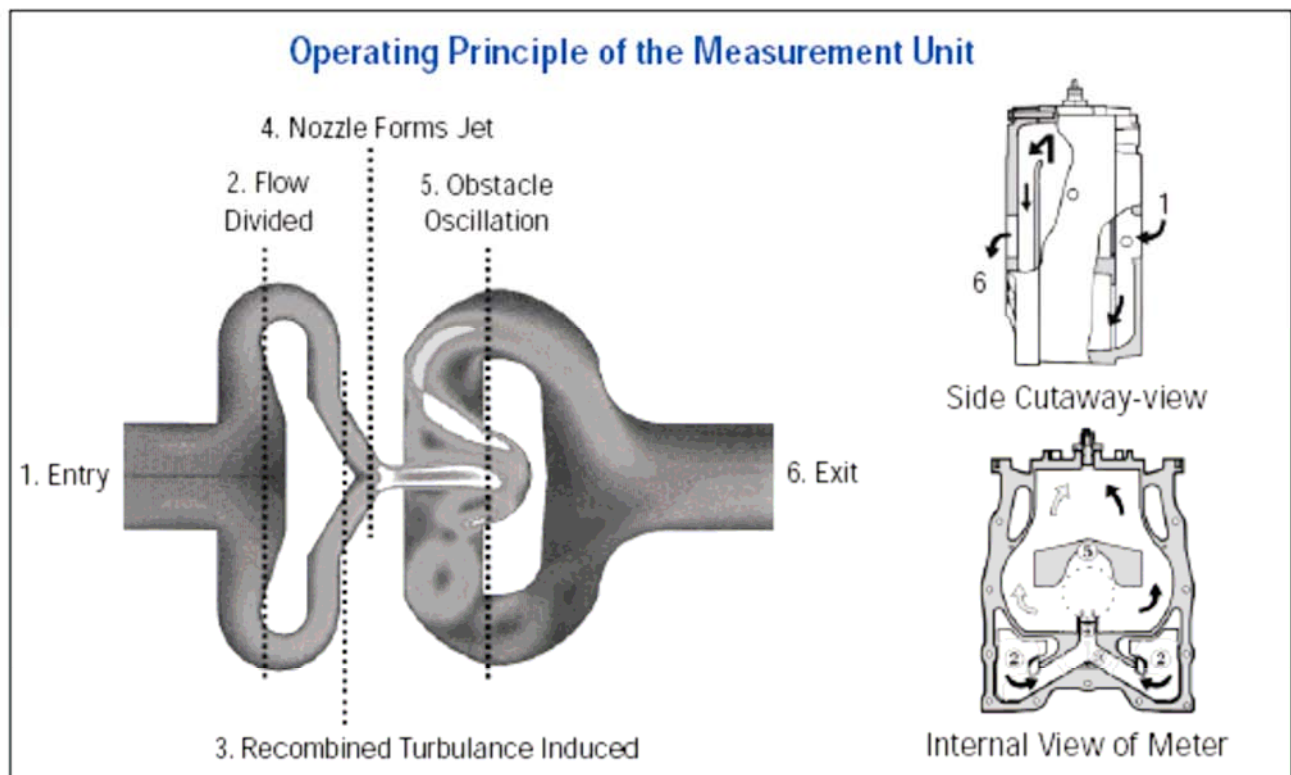
How it works

The operation of the Dattus meter (see diagram below), is based on the fluidic oscillation principle. The measurement unit is comprised of three functional elements:

- ▶ Flow conditioner
- ▶ Jet Nozzle formation
- ▶ Fluidic oscillator chamber

Gas enters (1) the meter and is divided into two separate paths (2), these two flows recombine (3) as they exit the flow conditioner and enter the fluidic oscillation chamber through the nozzle. The process of dividing the flows eliminates upstream disturbances and creates a well-conditioned flow. In the fluidic oscillation chamber, a jet is formed (4) as the gas enters through the nozzle. The jet then starts oscillating back and forth (5).

Thermal sensors, located just after the nozzle, detect a temperature variance as the gas jet passes from one side to the other. The volume of gas passed through the meter is obtained by counting the number of oscillations detected by the sensors.



Meter Specifications

Dattus fM Meter	Flange Size	Units	FM2	FM2	FM2	FM2	FM2	FM2	FM2	FM2	FM3	FM3	FM3	FM3
			1M	1.5M	2M	3M	5M	7M	11M	7M	11M	16M	23M	38M
Rated Capacity	-	acfh	1000	1500	2000	3000	5000	7000	11000	7000	11000	16000	23000	38000
Maximum Capacity*	-	acfh	1250	1875	2500	3750	6250	8750	13750	8750	13750	20000	28750	47500
MAOP	-	psig	150	150	150	150	150	150	150	175	175	175	175	175
Dynamic Range +/- 1%	-	ratio	17:1	25:1	33:1	50:1	83:1	116:1	183:1	70:1	110:1	160:1	230:1	380:1
Dynamic Range +/- 2%	-	ratio	45:1	68:1	91:1	136:1	227:1	318:1	500:1	117:1	183:1	267:1	383:1	633:1
Flow Rate, 0.5" w.c., Gas	2" FL	acfh	**	**	**	2457	2457	2457	2457	NA	NA	NA	NA	NA
	3" FL	acfh	**	**	**	2750	2750	2750	2750	NA	NA	NA	NA	NA
	4" FL	acfh	NA	NA	NA	NA	NA	NA	NA	6650	6650	6650	6650	6650
Flow Rate, 1.0" w.c., Gas	2" FL	acfh	**	**	**	**	3481	3481	3481	NA	NA	NA	NA	NA
	3" FL	acfh	**	**	**	**	3871	3871	3871	NA	NA	NA	NA	NA
	4" FL	acfh	NA	NA	NA	NA	NA	NA	NA	**	9350	9350	9350	9350
Flow Rate, 2.0" w.c., Gas	2" FL	acfh	**	**	**	**	4918	4918	4918	NA	NA	NA	NA	NA
	3" FL	acfh	**	**	**	**	5535	5535	5535	NA	NA	NA	NA	NA
	4" FL	acfh	NA	NA	NA	NA	NA	NA	NA	**	**	13150	13150	13150
Pressure Drop at Rated Capacity	2" FL	in. w.c.	0.09	0.19	0.33	0.75	2.06	3.89	9.25	NA	NA	NA	NA	NA
	3" FL	in. w.c.	0.05	0.14	0.26	0.61	1.64	3.14	7.55	NA	NA	NA	NA	NA
	4" FL	in. w.c.	NA	NA	NA	NA	NA	NA	NA	0.55	1.39	2.98	6.18	17.37
Flange Connection size	-	inches	2" or 3"	2" or 3"	2" or 3"	2" or 3"	2" or 3"	2" or 3"	2" or 3"	4"	4"	4"	4"	4"
Flange to Flange Dimensions	-	inches	6 3/4	6 3/4	6 3/4	6 3/4	6 3/4	6 3/4	6 3/4	9 1/2	9 1/2	9 1/2	9 1/2	9 1/2
Weight	-	lbs.	37	37	37	37	37	37	37	114	114	114	114	114
Shipping Weight	-	lbs.	42	42	42	42	42	42	42	128	128	128	128	128

* The Dattus Meter may be run at up to 25% over its rated capacity and still maintain accurate measurement

** Flow rate at stated differential is higher than the rated capacity of meter

Meter Sizing

Meter Size	FM2	FM2	FM2	FM2	FM2	FM2	FM2	FM3	FM3	FM3	FM3	FM3
	1M	1.5M	2M	3M	5M	7M	11M	7M	11M	16M	23M	38M
Rated Capacity	1000	1500	2000	3000	5000	7000	11000	7000	11000	16000	23000	38000
Meter Pressure (psig)	Metering Capacity in MSCFH											
1	1.1	1.6	2.1	3.2	5.3	7.4	11.6	7.4	11.6	16.8	24.2	39.9
5	1.3	2.0	2.6	4.0	6.6	9.3	14.6	9.3	14.6	21.2	30.5	50.3
10	1.7	2.5	3.3	5.0	8.3	11.7	18.3	11.7	18.3	26.6	38.3	63.3
15	2.0	3.0	4.0	6.0	10.0	14.0	22.1	14.0	22.1	32.1	46.2	76.3
20	2.3	3.5	4.7	7.0	11.7	16.4	25.8	16.4	25.8	37.6	54.0	89.2
25	2.7	4.0	5.4	8.1	13.4	18.8	29.6	18.8	29.6	43.0	61.9	102.2
60	5.1	7.6	10.2	15.2	25.4	35.5	55.9	35.5	55.9	81.3	116.8	193.0
90	7.1	10.7	14.3	21.4	35.6	49.9	78.4	49.9	78.4	114.0	163.9	270.8
100	7.8	11.7	15.6	23.4	39.0	54.7	85.9	54.7	85.9	124.9	179.6	296.7
150	11.2	16.8	22.4	33.7	56.1	78.6	123.4	78.6	123.4	179.5	258.1	426.4
175	-	-	-	-	-	-	-	90.5	142.2	206.9	297.4	491.3

Limited Exclusive Warranty: Actaris warrants all products against defects in materials and workmanship for the earlier of one (1) year from the date the product is shipped by Actaris or a period of one year from the date the product is installed by Actaris at the original purchaser's site. During such one-year period, provided that the original purchaser continues to own the product, Actaris will, at its sole option, repair any defects, replace the product or repay the purchase price. This warranty will be void if the Purchaser fails to observe the procedures for installation, operation or service of the product as set forth in Product Brochure, Installation Instructions or the Operating Manual for the product or if the defect is caused by tampering, physical abuse or misuse of the product. Purchaser agrees to pay to Actaris, upon demand, the reasonable costs of inspection, including travel costs and reasonable charges for Actaris' engineers and technicians, for any field service visits when the damage to the product was caused by any of the above factors, which void the warranty. **ACTARIS SPECIFICALLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING THOSE OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. UNDER NO CIRCUMSTANCES WILL ACTARIS BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND WHATSOEVER. THE REMEDIES OF THE PURCHASER SET FORTH HEREIN ARE EXCLUSIVE AND ACTARIS' LIABILITY FOR ANY CLAIM OF ANY KIND, INCLUDING NEGLIGENCE AND BREACH OF WARRANTY FOR THE SALE AND USE OF ANY ACTARIS PRODUCT, SHALL IN NO CASE EXCEED THE PURCHASE PRICE OR PRICE ALLOCABLE TO THE PRODUCT OR PART THEREOF WHICH GIVES RISE TO THE CLAIM.**



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