

GENERAL

ALIAMASS ATF2000 Series thermal mass flow meter is designed on the basis of thermal dispersion. It adopts method of constant differential temperature to measuring gas flow. It has the advantages of small size, high digitization, easy installation and high accuracy.

ATF2000 is a multi-functional thermal mass flow meter that measures mass flow and volume flow. With insertion type connection, the meter can achieve a hot-tapped installation and maintenance.

FEATURES

- Wide flow range: 0.1-120 m/s for gas
- Turndown ratio of least 100:1
- Temperature range up to 350 °C
- Good vibration resistance and long service life
- Hot-tap installation. Easy to install & maintain
- No moving parts, no wear, maintenance-free, low pressure loss
- Multiple installation options: Flange, thread, wafer, clamp and insertion
- Direct mass flow measurement of gases. No additional pressure and temperature compensation

STANDARD SPECIFICATION

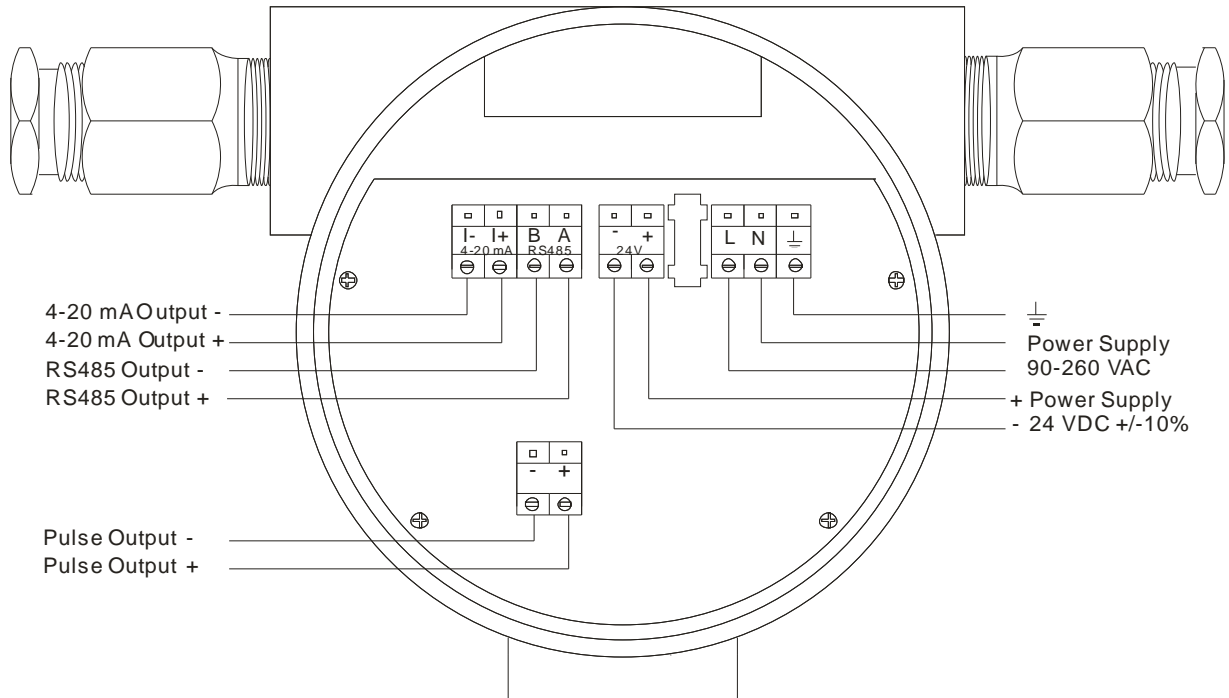
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|---------------------------|---|-----------------------|---|
| ● Size | : 10,15,20,25,32,40,50,65,80,100,125,150,
200,250,300,350,400,450,500,...7000 mm | ● Unit | : Nm ³ /hr, kg/hr, NL/min, kg/min, SCFH, PPH,
SCFM, PPM |
| ● Measuring Range | : 0.028 Nm ³ /hr-13854000 Nm ³ /hr
0.036 kg/hr-17872000 kg/hr | ● Temperature | : -40~200 °C (Standard)
-40~350 °C (Option) |
| ● Turndown Ratio | : Over 100:1 | ● Ambient Temperature | : -20~60 °C |
| ● Accuracy | : +/-1.0% of reading + +/-0.5% FS | ● Pressure | : 63 kgf/cm ² (Max.) |
| ● Gas Pressure Effect | : <0.2% / bar of the measured value | ● Protection Class | : Converter: IP67, Sensor: IP68
Explosion Proof, Ex ib IIC T4 |
| ● Gas Temp. Effect | : <0.02% / K of the measure value | IR Remote Control | : Intrinsically Safe, Ex ib IIC T6 |
| ● Repeatability | : +/-0.25% of reading | ● Display | : 11 Digit totalizer / flowrate |
| ● Flange Type Material | | ● Current Output | : 4-20 mA
Load : Max. 800 Ω |
| Flange | : Stainless Steel 304 (Option: S.S. 316) | ● Pulse Output | : Scaled Pulse (unit / Pulse) (Option) |
| Measuring Tube | : Stainless Steel 304 (Option: S.S. 316) | ● Communication | : RS485 (MODBUS Protocol)
: HART (Compatible) (Option) |
| Sensor | : Stainless Steel 316L | ● Housing Material | : Aluminum Alloy |
| ● Insertion Type Material | | ● Cable Entry | : Standard: M20 * 1.5, Option: 1/2" NPTF |
| Sensor | : Stainless Steel 316L | ● Power Supply | : 24 VDC +/-10%
: 90-260 VAC, 50/60 Hz |
| Ball Valve, Adaptor | : Stainless Steel 304 (Option: S.S. 316) | ● KeyPad | : 4 Internal keys / Infrared Remote Control
(no need to open the cover) for
display control |
| Hot-Tap Machine | : Stainless Steel 304 | ● Installation | : Compact or Remote |
| ● Process Connection | : Flange Type, Insertion Type... | | |
| Flange Type | : JIS 10K / JIS 20K / JIS 40K
: ANSI 150# / ANSI 300# / ANSI 600#
: DIN PN10 / PN16 / PN25 / PN40 | | |
| Insertion Type | : Thread M33 * 2, G1-1/2" (Hot-tap Type) | | |



FLOW RANGE

Flow Range											
Air-20 °C 101.325 kPa											
Normal Size		Flow Rate (Nm ³ /hr)		Flow Rate (kg/hr)		Normal Size		Flow Rate (Nm ³ /hr)		Flow Rate (kg/hr)	
mm	Inch	Min.	Max.	Min.	Max.	mm	Inch	Min.	Max.	Min.	Max.
10	3/8"	0.028	28	0.036	36	400	16"	45	45,000	58	58,000
15	1/2"	0.064	64	0.083	83	450	18"	57	57,000	74	74,000
20	3/4"	0.113	113	0.146	146	500	20"	71	71,000	92	92,000
25	1"	0.177	177	0.228	228	600	24"	102	102,000	132	132,000
32	1-1/4"	0.290	290	0.374	374	700	28"	139	139,000	179	179,000
40	1-1/2"	0.452	452	0.583	583	800	32"	181	181,000	233	233,000
50	2"	0.707	707	0.912	912	900	36"	229	229,000	295	295,000
65	2-1/2"	1.20	1,200	1.54	1,540	1000	40"	282	282,000	364	364,000
80	3"	1.81	1,810	2.33	2,330	1200	48"	407	407,000	525	525,000
100	4"	2.83	2,830	3.65	3,650	1500	60"	636	636,000	820	820,000
125	5"	4.42	4,420	5.70	5,700	1800	72"	916	916,000	1,182	1,182,000
150	6"	6.36	6,360	8.21	8,210	2000	80"	1,131	1,131,000	1,459	1,459,000
200	8"	11.31	11,310	14.59	14,590	3000	120"	2,545	2,545,000	3,283	3,283,000
250	10"	17.67	17,670	22.79	22,790	5000	200"	7,069	7,069,000	9,119	9,119,000
300	12"	25.45	25,450	32.83	32,830	6000	240"	10,179	10,179,000	13,131	13,131,000
350	14"	34.64	34,640	44.68	44,680	7000	280"	13,854	13,854,000	17,872	17,872,000

WIRING DIAGRAM

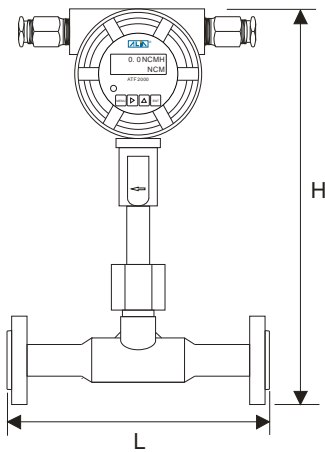


➤ DIMENSIONS

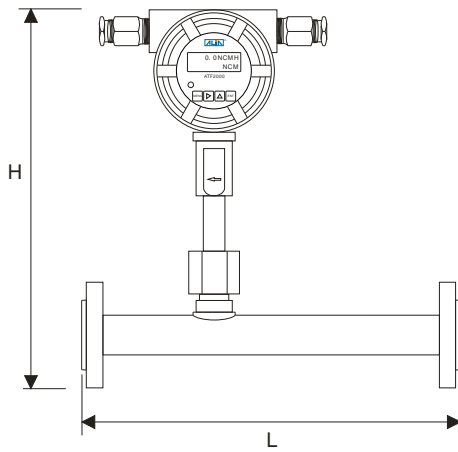
Flange Type

Unit: mm

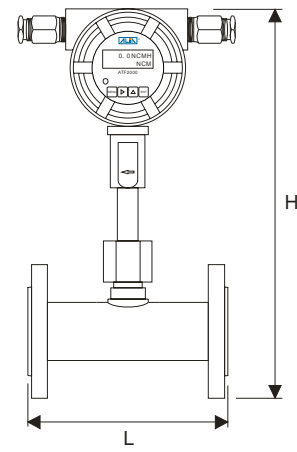
Size				Size				Size			
mm	Inch	L	H	mm	Inch	L	H	mm	Inch	L	H
10	3/8"	280	313	80	3"	200	390	400	16"	480	748
15	1/2"	280	318	100	4"	220	409	450	18"	510	805
20	3/4"	280	323	125	5"	250	437	500	20"	550	868
25	1"	360	319	150	6"	300	467	600	24"	620	980
32	1-1/4"	360	334	200	8"	350	525	700	28"	690	1060
40	1-1/2"	360	343	250	10"	400	584	800	32"	750	1168
50	2"	150	355	300	12"	420	638	1000	40"	890	1383
65	2-1/2"	170	376	350	14"	440	694				



DN<25



DN25-DN40

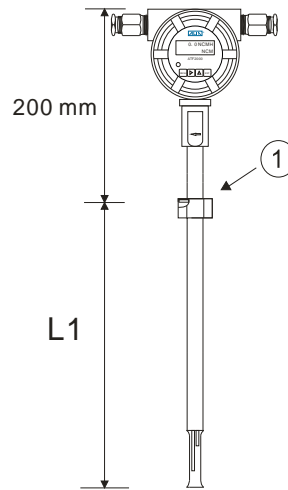


DN>40

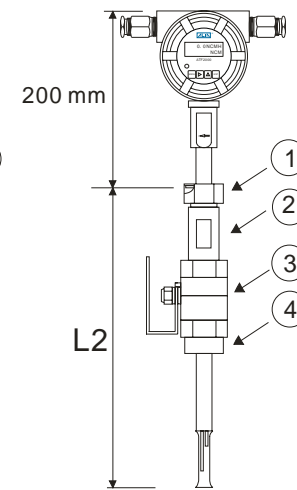
Insertion Type

L1 (mm)	L2 (mm)	Size
235	410	DN80-200 mm
385	560	DN80-500 mm
635	810	DN80-1000 mm
885	1060	DN80-1500 mm
1135	1310	DN80-2000 mm
Other	Other	>DN2000 mm

①	Nut	M33 * 2
②	Adapter	M33 * 2 / G1-1/2"
③	Ball Valve	G1-1/2"
④	Extension Tube	G1-1/2" / Welding



Insertion Type



Hot Tap Type

➤ PLUG-IN HOT-TAP & FIXTURE



Manual Hot-Tap Machine



Electric Hot-Tap Machine



Saddle fitting (carbon steel)

MODEL SELECTION GUIDE

ATF2000 Series											
Example: ATF2000-I0500-6RN-NNN-AD-N-RC/EM/HO											
ATF2000-	X	XXXX	-X	X	X-	XXX	-XX	-X	-XX	Description	
Type	F									Flange Type (DN10-DN1000)	
	I									Insertion Type (DN80-DN7000)	
	Z									Other	
Size	0010-7000										0010-7000 mm (1/2"-280")
Wetted Parts Material			-4								Stainless Steel 304
			-6								Stainless Steel 316
Flange Type Process Connection			1								PN10
			2								PN16
			3								PN25
			4								PN40
			A								ANSI 150#
			B								ANSI 300#
			C								ANSI 600# (Max. Pressure 63 kgf/cm ²)
			J								JIS 10K
			K								JIS 20K
			L								JIS 40K
Insertion Length (Only for Insertion Type)			P								L1=235 mm or L2=410 (For DN80-200 mm) *Note 1
			Q								L1=385 mm or L2=560 (For DN80-500 mm) *Note 1
			R								L1=635 mm or L2=810 (For DN80-1000 mm) *Note 1
			S								L1=885 mm or L2=1060 (For DN80-1500 mm) *Note 1
			T								L1=1135 mm or L2=1310 (For DN80-2000 mm) *Note 1
			Z								Other
Max. Temperature			N-								-40~200 °C
			H-								-40~350 °C
Installation & Cable Length			NNN								Compact Version
			010-015								Remote Version, Cable 010-015 m
Power Supply			-AD								90-260 VAC, 50/60 Hz + 24 VDC (10%)
Output			-N								4-20 mA + RS485 (MODBUS)
			-H								4-20 mA + HART
Option			-NN								None
			-EX								Explosion Proof, Ex d IIC T4
			-RC								IR Remote Control (Ex ib IIC T6)
			-PT								Cable Entry, 1/2" NPTF
			-SP								Scaled Pulse (unit / Pulse)
			-HM								Manual Hot-Tap Machine
			-EM								Electric Hot-Tap Machine (No electric drill included)
			-SF								Saddle fitting (carbon steel) *Note 2
			-HO								Hot Tap (Retractable probe Mounting)
			-ET								Extension Tube
		-FL								Other process connections for Insertion Type *Note 3	

Note:

Note 1: Insertion Length L2 must be matched with Hot Tap in Option.

Note 2: Saddle fitting: For the materials of pipe which is unable to weld plug-in flowmeter such as cast iron and PVC.

Please provide the perimeter of outer diameter when ordering.

Note 3: Other connections for Insertion Type such as 2" NPTM, 2" BSPP, 1" ANSI 150# and 1" JIS 10K etc.