



TECHNICAL GUIDANCE

FOR FOODS, PHARMACEUTICALS AND OTHER SANITARY PROCESS

AM-1000-SR

Metal Tube Type Variable Area Flowmeter for Sanitary Application

OUTLINE

The **AM-1000-SR** is a variable area flowmeter designed and manufactured for sanitary services.

The IDF sanitary clamps or unions make its installation on the piping or removing easy. All the liquid wet parts are buff polished.

FEATURES

- For cleaning and maintenance of metal tube type, its construction with clamps makes it easier to disassemble the indicator and transmitter housing.
- Straight through self-draining design.
- Supports a large flow rate (Max.70m³/h)
- In addition to the local flow rate indication the various functions can be selected from pneumatic, current, alarm outputs and local totalization with a scaled pulse output.
- For Foods, Pharmaceuticals and Other Sanitary Process.

STANDARD SPECIFICATION

MODEL AND FUNCTION :

AM-1401-SR	LOCAL INDICATION
AM-1311-SR	LOCAL INDICATION + PNEUMATIC OUTPUT
AM-1521-SR	LOCAL INDICATION + ELECTRIC OUTPUT(DC4~20mA)
AM-1691-SR	LOCAL INDICATION + LOCAL TOTALIZATION + SCALED PULSE OUTPUT
AM-1741-SR	LOCAL INDICATION + ALARM CONTACT(S)

- AVAILABLE METER SIZE : 20, 25, 40, 50, 65, 80 and 100
- IDF CLAMP(UNION) SIZE : 1S,1.5S, 2S, 2.5S, 3S, 3.5S and 4S
- PROCESS CONNECTION : IDF CLAMP or UNION SCREW
- FLOW DIRECTION : BOTTON to TOP
- SCALE RANGE(WATER) : MIN. 0.01 to 0.1m³/h
MAX. 7 to 70m³/h
- FLUID PRESS. : MAX. 0.68MPa
- FLUID TEMP. : MAX. 150°C

It is general data, and the maximum temperature may change by terms of use and environment.

- INDICATION ACCURACY : ±1.5% F.S.
- MATERIAL :

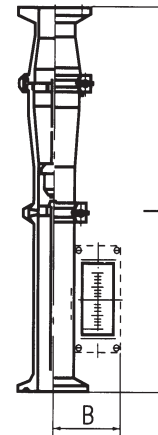
TAPERED TUBE	SUS304 (SUS316, SUS316L) with #320 to #400 Buff polishing (inner and outer) *
BODY TUBES	SUS304 (SUS316, SUS316L) with #320 to #400 Buff polishing (inner and outer) *
FLOAT	SUS304 (SUS316, SUS316L) with #320 to #400 Buff polishing *
SEAL	NBR (FPM, Silicone rubber, PTFE)
CLAMP	SCS13

ASTM materials may be used instead of JIS materials for the body tubes.

* Electrolytic polishing is also available as an option.



DIMENSION AND SCALE RANGE



METER SIZE	CONNECTION SIZE	L (mm)*1	B (mm)	POSSIBLE SCALE RANGE (m ³ /h)*2	SCALE RANGE (Density 1.0g/cm ³ and 1.0mPa·s viscosity) (m ³ /h)
20	1S	550	89	0.1 to 1.6	0.1 to 1.6
25	1S,1.5S	550	92	4.0	4.1
40	1.5S,2S	550	99	7.1	10
50	2S,2.5S	550*3	105	15.0	20
65	2.5S,3S	600	113	27.5	30
80	3S,3.5S	600	120	40.5	40.5
100	4S,4.5S	600	132	70.0	70.0

*1: L dimension is common both for Clamp and Screw connection.

*2: POSSIBLE SCALE RANGE is indicated by ow rate of water. (Density 1.0g/cm³ and 1.0mPa·s viscosity)

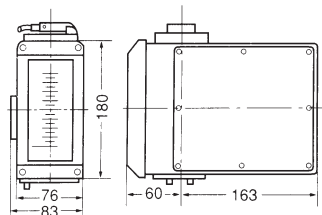
In case the measuring object different from above, a conversion calculation is required. Consult factory for details.

*3: H dimension will be extended by 50mm if ow rate is more than 15m³/h.

■ SPECIFICATION OF TRANSMITTER AND INDICATOR

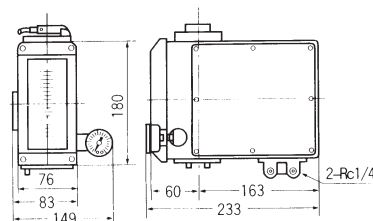
- AM-1401-SR
Local indication type

DIMENSION OF INDICATOR



- AM-1311-SR
Local indication + Pneumatic output type

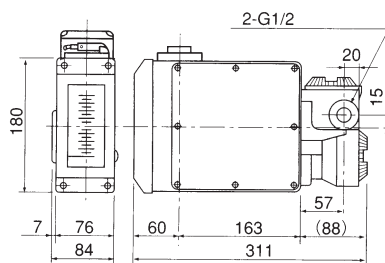
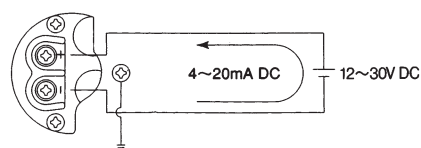
Air supply : 0.14 ± 0.01MPa
 Outputs : 20 to 100kPa (with output gauge)
 Air consumption : 14L/min(nor)
 Connection : Rc 1/4
 On request NPT 1/4
 Output accuracy : ±1.0%F.S. (Against flow calibration)
 Construction : Dust and splash proof (Equ. to IP54)
 Ambient Temp : -20 to 80°C
 Provide heat insulation if required.
 Accessory : Air set (On request)



- AM-1521-SR
Local indication + Electric output type

Power supply voltage : Dust and splash proof and flameproof
 12 to 30 V DC
 Output : 4 to 20 mA DC
 Max load : Dust and splash proof and flameproof
 600Ω (24 V DC)
 Cable entry : Dust and splash proof : 2xG1/2 or 2xNPT1/2
 Flameproof : 2xG1/2 or 2xNPT1/2
 Option:
 Packing type cable gland
 [TIIS flameproof cable with a diameter of 8 mm
 to 12 mm (standard: 10 mm to 12 mm)]
 **Specified cable gland (Type SXC-16B
 Shimada Electric Co.) to be used for flame
 proof construction work.**
 Output accuracy : ±1.0%F.S. (Against flow calibration)
 Construction : Dust and splash proof ; Equ. to IP54 AM-152□
 Flameproof ; Exd II BT4 EP-AM-152□
 On request ; Exd II CT4 EP-AM-152□
 Amb. temp. : Dust and splash proof ; -30 to +70°C
 Flameproof ExdIIBT4 ; -20 to +55°C
 ExdIICT4 ; -20 to +55°C

● Terminal and wiring

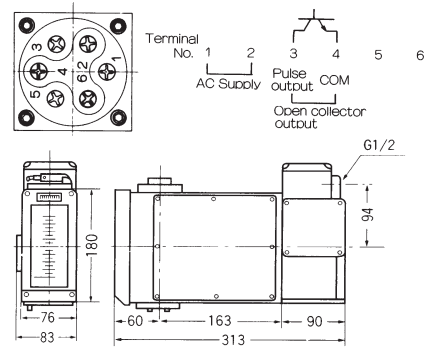


● AM-1691-SR

Local indication + Totalization
+ Scaled Pulse output type

- Integration : 6 digit with reset
- Count rate : 50 to 2000c/h
- Pulse output : Open collector output
Pulse width 100ms, Rating 35 V DC, 50 mA
(Signal circuit and power supply circuit are isolated.)
- Integration accuracy : ±2.0%F.S.
- Power supply : 100 V AC, 50/60Hz as standard. 110 V AC, 50/60Hz is also available on your request except flameproof version.
A separate transformer is required for other voltage.
- Power consumption : Max. 5VA
- Cable entry : G1/2 (Female)
G1/2 with flameproof cable gland (Option)
[TIIS flameproof cable with a diameter of 7 mm to 12 mm (standard: 11 mm to 12 mm)]
1/2 NPT (Option)
- Enclosure : Dust and splash proof (Equ. to IP54) type AM-169□
Flameproof (JISd2G4) type EP-AM-169□
- Ambient temp : -20 to 80°C for type AM-169□
-10 to 60°C for type EP-AM-169□
Provide heat insulation if required

● Wiring diagram

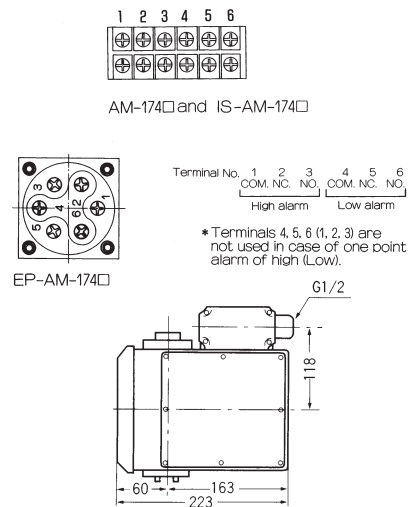


● AM-1741-SR

Local indication + Alarm Contact(s) type

- Alarm point : 1 point high alarm or
1 point low alarm or
2 points high and low
- Switch : Micro switch SPDT
- Rating :
Standard : 125/250 V AC, 5A
On request : 30 V DC, 0.1A
- Setting accuracy : ±1.5% F.S. (against flow calibration)
Note: The indication of flow rates except for the alarm setting value may be less accurate just after turning on the switch.
- Reset span : Dust and splash proof and
Intrinsically safe within 20% (F.S.) (Against flow calibration)
Flameproof EP-AM-174□ within 30% (F.S.) (Against flow calibration)
- Cable entry : G1/2 with female screw
Conduit connection. Packing type cable gland is also available.
[TIIS flameproof cable with a diameter of 7 mm to 12 mm (standard: 11 mm to 12 mm)]
On request : NPT 1/2
- Enclosure : Dust and splash proof (Equ. to IP54) type AM-174□
Flameproof (JISd2G4) type EP-AM 174□
Intrinsically safe (ExiallCT6) type IS-AM-174□*
* Supplied with safety barrier
- Ambient temp : -25 to 80°C for type AM-174□
-10 to 60°C for type EP-AM-174□
IS-AM-174□
Provide heat insulation if required

● Wiring diagram



* Specification is subject to change without notice.

***TIV* TOKYO KEISO CO., LTD.**

Head Office : Shiba Toho Building, 1-7-24 Shibakoen, Minato-ku, Tokyo 105-8558

Tel : +81-3-3431-1625 (KEY) ; Fax : +81-3-3433-4922

e-mail : overseas.sales@tokyokeiso.co.jp ; URL : <http://www.tokyokeiso.co.jp>