

GLASS TAPER TUBE TYPE FLOWMETER GTF SERIES

The main parts quality of the material is METAL.



GTF-2

The glass tube type flowmeter GTF measures instantaneous flow rates of liquids and gases in a vertical pipe line. This direct reading type flowmeter has a simple construction making for easy maintenance.

◆ SPECIFICATION (METAL TYPE)

Connection sizes	10A to 80A (3/8 " to 3")
Fluids	Liquids and Gases
Range ability	1 : 10 (10 ~ 100 %)
Accuracy	Within ± 2 % F.S.
Max. working pressure	Refer to "SCALE RANGE "
Working temperature	0 ~ +100 °C : Metal Float
	0 ~ +70 °C : PTFE Float
Materials	SUS304 (Standard) SUS316, Lining (Option)
Connection rating	ANSI , JPI , JIS FLANGE SCREW
Mount position	Bottom to Top

◆ MODEL DESCRIPTION

GTF - □ □ □ □ □ □ □ □								CONTENTS
STRUCTURE	1							FLOAT GUIDE NOTHING
	2							WITH FLOAT GUIDE
FLOW DIRECTION								BOTTOM TO TOP Standard goods: No sign
	L							BOTTOM TO TOP SIDE / BOTTOM SIDE TO TOP
	P							BOTTOM SIDE TO TOP SIDE
OPTION		AR 1						The one-point alarm of a reed switch
		AR 2						The two-point alarm of a reed switch
		AP 1						The one-point alarm of an optical sensor
		AP 2						The two-point alarm of an optical sensor
		AX 1						Intrinsically Safe Explosion one-point alarm of a reed switch
		S						Screw connection
			N1					Flowing quantity adjustment valve with the upstream side
			N2					Flowing quantity adjustment valve with the downstream side
			CP					Protection cover Transparent PVC
			CA					Protection cover Transparent Acrylics
			CU					Protection cover Stainless Steel
			CS					Protection cover steel
			C1					Oil free (Fat free)
		C2					Oil free	
		Z					Other Special specification	



WARNING

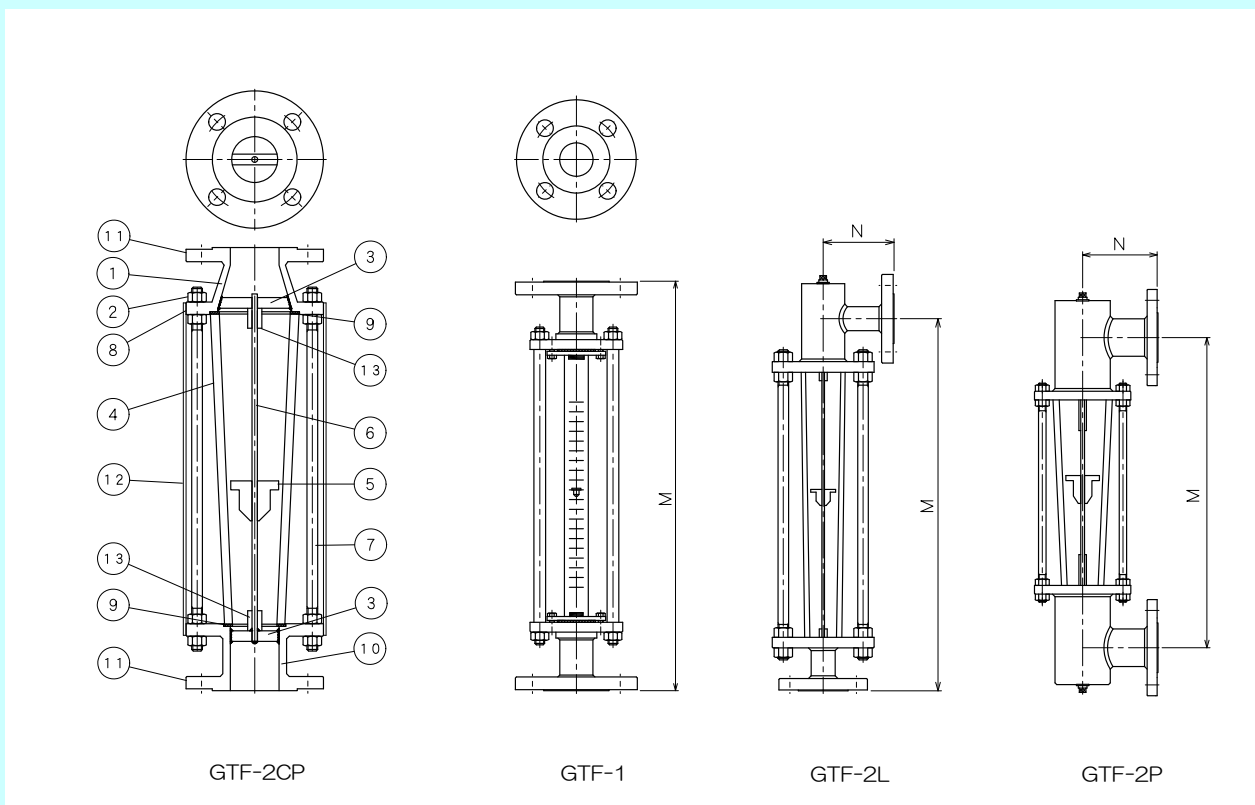
The maximum working pressure and temperature of this flowmeter Be sure to use the flowmeter within these conditions otherwise the glass tube may be broken. If this condition is not kept, harm will join a human body.

- The pressure retaining part is made of glass. Rough handling may cause serious accident.
- It is recommended to install a solenoid valve at the outlet of the flowmeter.

◆ MATERIALS GTF

Material Parts name		NO.1	NO.2	NO.3	NO.4	NO.5	NO.6	NO.7
		Body : SS400/wet Parts : SUS304	Wet parts : SUS304	SUS304	SUS316	PVC lined body	Glass lined body	PTFE lined body
①	Outlet	SS400	SUS304	SUS304	SUS316	CS-PVC	CS-Glass	CS-PTFE
②	Nut	SWRM	SWRM	SWRM	SWRM	SWRM	SWRM	SWRM
③	Stopper	SUS304/SUS316	SUS304/SUS316	SUS304/SUS316	SUS316	PVC	PTFE/PVC	PTFE
④	Taper tube	GLASS	GLASS	GLASS	GLASS	GLASS	Glass	Glass
⑤	Float	SUS304	SUS304	SUS304	SUS316	PVC	PTFE/PVC	PTFE
⑥	Float guide	SUS304	SUS304	SUS304	SUS316	PVC	PTFE/PVC	PTFE/PFA
⑦	Bolts	SWRM	SWRM	SWRM	SWRM	SWRM	SWRM	SWRM
⑧	Flange	SS400	SS400	SUS304	SUS316	CS-PVC	CS-Glass	CS-PTFE
⑨	Packing	EPDM	EPDM	EPDM	EPDM	EPDM/FPM	PTFE/FPM	PTFE/FPM
⑩	Inlet	SS400	SUS304	SUS304	SUS316	CS-PVC Lining	CS-Glass Lining	CS-PTFE
⑪	Flange	SS400	SS400	SUS304	SUS316	CS-PVC Lining	CS-Glass Lining	CS-PTFE
⑫	Protect cover	PVC	PVC	PVC	PVC	PVC	PVC	PVC
⑬	Cushion	EPDM/PTFE	EPDM/PTFE	EPDM/PTFE	EPDM/PTFE	EPDM	PTFE	PTFE

- Standard articles are NO.1 and NO.3. The other quality of the materials serve as order-received production.
- Quality of the material NO.2 become the size more than 50A.
- It may be unable to specify with [of (6)] a float guide according to flowrate specification and the quality of the material. Moreover, those without a float guide may be unable to be specified. Please refer to a 4-page flowrate table for details.
- Please ask the details which I manufacture also except the quality of the material of a publication.
- A pressure display is gauge pressure. 1atm = 101.33 kPa(abs) = 0 kPa(G) = 0 MPa(G)
- Quality of the material (2)(7)(12) does not touch liquid, or does not touch gas.
- A figure may differ from structure form in specification. The float quality of the material may use glass, a ruby, PVC, PTFE, etc. with specification.
- Although the quality of the material of float and a float guide is writing it as SUS304, SUS316 may be used by the thing.
- Outlet, Inlet, and Flange are called Main parts in this book.
- Please select a setup of Flowrate scale range from a 4-page table. Please select the maximum of Flowrate scale in that case from a 20-page table.



◆ GTF FLOWRATE SCALE RANGES Specific gravity is 1.0 and Viscosity 1.0 mPa · s by the case where fluid is water.

Meter Size	Float guide Nothing			Float guide With			Max. pressure MPa(G)	Dimension mm		Weight (about) kg
	Float material SUS304			Nothing				M	N	
10A	0.4 ~ 4	min.	L/h	Nothing			1.0	400	80	3
	30 ~ 300	standard	L/h				1.0	400	80	3
	35 ~ 350	max.	L/h				1.0	400	80	3
15A	0.4 ~ 4	min.	L/h	0.03 ~ 0.3	min.	m³/h	1.0	400	80	4
	30 ~ 300	standard	L/h	0.08 ~ 0.8	standard	m³/h	1.0	400	80	4
	35 ~ 350	max.	L/h	0.15 ~ 1.5	max.	m³/h	1.0	400	80	4
20A	0.4 ~ 4	min.	L/h	0.03 ~ 0.3	min.	m³/h	1.0	400	80	5
	30 ~ 300	standard	L/h	0.2 ~ 2	standard	m³/h	1.0	400	80	5
	35 ~ 350	max.	L/h	0.3 ~ 3	max.	m³/h	1.0	400	80	5
25A	0.4 ~ 4	min.	L/h	0.03 ~ 0.3	min.	m³/h	0.8	420	100	8
	30 ~ 300	standard	L/h	0.4 ~ 4	standard	m³/h	0.8	420	100	8
	35 ~ 350	max.	L/h	0.6 ~ 6	max.	m³/h	0.8	420	100	8
40A	Nothing			0.3 ~ 3	min.	m³/h	0.6	420	100	14
				0.6 ~ 6	standard	m³/h	0.6	420	100	14
				1.2 ~ 12	max.	m³/h	0.6	420	100	14
50A	Nothing			0.4 ~ 4	min.	m³/h	0.5	500	120	18
				1.5 ~ 15	standard	m³/h	0.5	500	120	18
				2 ~ 20	max.	m³/h	0.5	500	120	18
65A	Nothing			1.0 ~ 10	min.	m³/h	0.3	500	120	22
				3.5 ~ 35	standard	m³/h	0.3	500	120	22
				4.5 ~ 45	max.	m³/h	0.3	500	120	22
80A	Nothing			1.0 ~ 10	min.	m³/h	0.3	500	120	29
				3.5 ~ 35	standard	m³/h	0.3	500	120	29
				4.5 ~ 45	max.	m³/h	0.3	500	120	29

◆ GTF FLOWRATE SCALE RANGES It is in 20 degrees C in AIR, and the operation state of 1atm (0kPaG).

Meter Size	Float guide Nothing		Float guide With		Float guide With		Float guide With		Max. pressure MPa(G)	Dimension mm		Weight (About) kg
	Float material PTFE L/min(intp)		Float material PTFE m³/h(intp)		Float material PVC m³/h(intp)		Float material SUS m³/h(intp)			M	N	
10A	0.5 ~ 5	min.	Nothing		0.4 ~ 4	min.	Nothing		1.0	400	80	3
	5 ~ 50	standard			0.5 ~ 5	standard			1.0	400	80	3
	10 ~ 100	max.			0.9 ~ 9	max.			1.0	400	80	3
15A	0.5 ~ 5	min.	0.4 ~ 4	min.	0.4 ~ 4	min.	0.9 ~ 9	min.	1.0	400	80	4
	5 ~ 50	standard	1.2 ~ 12	standard	1 ~ 10	standard	2 ~ 20	standard	1.0	400	80	4
	10 ~ 100	max.	2 ~ 20	max.	2 ~ 20	max.	4 ~ 40	max.	1.0	400	80	4
20A	0.5 ~ 5	min.	0.4 ~ 4	min.	0.4 ~ 4	min.	0.9 ~ 9	min.	1.0	400	80	5
	5 ~ 50	standard	3 ~ 30	standard	2.5 ~ 25	standard	5 ~ 50	standard	1.0	400	80	5
	10 ~ 100	max.	4 ~ 40	max.	3 ~ 30	max.	7 ~ 70	max.	1.0	400	80	5
25A	0.5 ~ 5	min.	0.4 ~ 4	min.	0.4 ~ 4	min.	0.9 ~ 9	min.	0.8	420	100	8
	5 ~ 50	standard	5 ~ 50	standard	5 ~ 50	standard	6 ~ 60	standard	0.8	420	100	8
	10 ~ 100	max.	9 ~ 90	max.	8 ~ 80	max.	12 ~ 120	max.	0.8	420	100	8
40A	Nothing		5 ~ 50	min.	4 ~ 40	min.	9 ~ 90	min.	0.6	420	100	14
			10 ~ 100	standard	10 ~ 100	standard	12 ~ 120	standard	0.6	420	100	14
			15 ~ 150	max.	12 ~ 120	max.	15 ~ 150	max.	0.6	420	100	14
50A	Nothing		6 ~ 60	min.	5 ~ 50	min.	12 ~ 120	min.	0.5	500	120	18
			20 ~ 200	standard	15 ~ 150	standard	30 ~ 300	standard	0.5	500	120	18
			25 ~ 250	max.	20 ~ 200	max.	40 ~ 400	max.	0.5	500	120	18
65A	Nothing		15 ~ 150	min.	15 ~ 150	min.	30 ~ 300	min.	0.3	500	120	22
			30 ~ 300	standard	30 ~ 300	standard	60 ~ 600	standard	0.3	500	120	22
			60 ~ 600	max.	50 ~ 500	max.	100 ~ 1000	max.	0.3	500	120	22
80A	Nothing		15 ~ 150	min.	15 ~ 150	min.	30 ~ 300	min.	0.3	500	120	29
			50 ~ 500	standard	30 ~ 300	standard	60 ~ 600	standard	0.3	500	120	29
			60 ~ 600	max.	50 ~ 500	max.	100 ~ 1000	max.	0.3	500	120	29

It is in 20 degrees C in AIR, and the operation state of 1atm (0kPaG). It expresses with flowrate (intp) in the volume of 0 degree C and 1atm.

GLASS TAPER TUBE TYPE FLOWMETER GTF SERIES

The main parts quality of the material is PVC.



GTF-2

The glass tube type flowmeter GTF measures instantaneous flow rates of liquids and gases in a vertical pipe line. This direct reading type flowmeter has a simple construction making for easy maintenance.

◆ SPECIFICATION (PVC TYPE)

Connection sizes	15A to 80A (1/2" to 3")
Fluids	Liquids and gases
Range ability	1 : 10 (10-100 %)
Accuracy	Within ± 2 % F.S.
Max. working pressure	Refer to "SCALE RANGE "
Max. working temperature	(PVC) 0 ~ 50 °C
	(C-PVC) 0 ~ 70°C
Materials	PVC (Standard) C-PVC (Option)
Connection rating	ANSI , JPI , JIS 10K FLANGE SCREW
Mount position	Bottom to Top

◆ MODEL DESCRIPTION

G T F - □ □ □ □ □					CONTENTS
STRUCTURE	1				FLOAT GUIDE NOTHING BOTOM TO TOP
	2				WITH FLOAT GUIDE BOTOM TO TOP
OPTION		AR 1			The one-point alarm of a reed switch
		AR 2			The two-point alarm of a reed switch
		AP 1			The one-point alarm of an optical sensor
		AP 2			The two-point alarm of an optical sensor
		AX 1			Intrinsically Safe Explosion one-point alarm of a reed switch
		S			Screw connection (Rc 1/2 ~ Rc 1)
			CP		Protection cover Transparent PVC
			CA		Protection cover Transparent Acrylics
			CU		Protection cover Steel
			CS		Protection cover Stainless steel
			C1	Oil free (Fat free)	



WARNING

The maximum working pressure and temperature of this flowmeter are 0.3 ~ 0.5 MPaG (3 ~ 5 kgf/cm² G) and 50 °C.
Be sure to use the flowmeter within these conditions otherwise the glass tube may be broken.
If this condition is not kept, harm will join a human body.

- The pressure retaining part is made of glass. Rough handling may cause serious accident.
- It is recommended to install a solenoid valve at the outlet of the flowmeter.

GLASS TAPER TUBE TYPE FLOWMETER

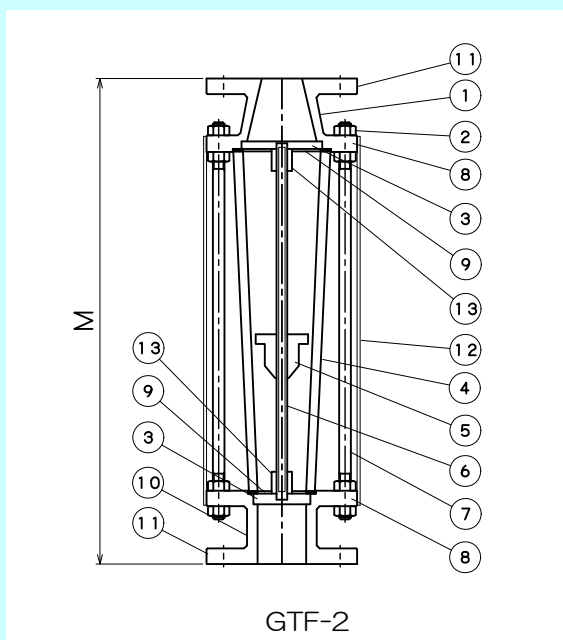
GTF SERIES

◆ SCALE RANGES PVC TYPE

Meter Size	Maximum Measuring scale range			Max. working pressure	Test pressure	Dimension mm	Product Weight (About) kg
	H2O (m ³ /h)	AIR m ³ /h(ntp)					
Float material	PVC	PTFE	PVC	MPa(G)	MPa(G)	M	
1/2 15A	50(L/h) ~ 1	0.3 ~ 24	4 ~ 20	0.5	0.75	400	2
3/4 20A	0.3 ~ 2	0.3 ~ 40	4 ~ 33	0.5	0.75	400	3
1 25A	0.3 ~ 4	0.3 ~ 95	4 ~ 80	0.5	0.75	420	4
1 · 1/2 40A	4 ~ 10	45 ~ 160	40 ~ 130	0.4	0.6	420	5
2 50A	10 ~ 18	60 ~ 260	50 ~ 200	0.35	0.53	500	6
2 · 1/2 65A	18 ~ 45	180 ~ 600	150 ~ 500	0.3	0.4	500	8
3 80A	18 ~ 45	180 ~ 600	150 ~ 500	0.3	0.4	500	10

- Air flow rates were measured at 1 atm, 20 °C. 0.1 MPaG = 1.02 kgf/cm2G
- For flowmeters having flow rates and sizes other than these in the above table ask your dealer.
- Please select the range of 1:10 from measuring range.

◆ MATERIALS



Material		NO.8	NO.9
		PVC	C-PVC
①	Outlet	PVC	C-PVC
②	Nut	SUS304	SUS304
③	Stopper	PVC	C-PVC
④	Taper tube	Glass	Glass
⑤	Float	PVC/PTFE	C-PVC/PTFE
⑥	Float guide	PVC/PFA	C-PVC/PFA
⑦	Bolts	SUS304	SUS304
⑧	Flange	PVC	C-PVC
⑨	Packing	EPDM	EPDM
⑩	Inlet	PVC	C-PVC
⑪	Flange	PVC	C-PVC
⑫	Protect cover	PVC	PVC
⑬	Cushion	EPDM/PTFE	EPDM/PTFE

- (6) A float guide may not be attached.
- C-PVC : Heat resistance PVC = HT-PVC is same

ACRYL TAPER TUBE TYPE FLOWMETER ATF SERIES

The main parts quality of the material is METAL.



The Acryl tube type flowmeter ATF measures instantaneous flow rates of liquids and gases in a vertical pipe line. This direct reading type flowmeter has a simple construction making for easy maintenance.

◆ MODEL

ATF - □ □ □ □				内容
Option	AR 1			The one-point alarm of a reed switch
	AR 2			The two-point alarm of a reed switch
	AP 1			The one-point alarm of an optical sensor
	AP 2			The two-point alarm of an optical sensor
	AX 1			Intrinsically Safe Explosion one-point alarm of a reed switch
	S			Screw connection
	CP			Protection cover Transparent PVC
	CA			Protection cover Transparent Acrylics
	CU			Protection cover Stainless Steel
	CS			Protection cover steel
C1			Oil free (Fat free)	

ATF serves as flange connection as standard.
 In screw lump connection of an option, please specify a screw standard.
 When you do not choose an option, please be nothing and fill in □ frame by left stuffing.
 Please enter by left stuffing without putting in a hyphen between □ frames, when choosing an option.

◆ SCALE RANGES

Meter Size	Standard scale range	Maximum Measuring scale range			Max. working pressure	Dimension
	H2O (m³/h)	H2O (m³/h)	AIR m³/h(intp)			
Float material	SUS304	SUS304	SUS304	PVC	MPa(G)	M
15A	0.1 ~ 1	0.2 ~ 1.2	6 ~ 35	2 ~ 15	0.4	280
20A	0.2 ~ 2	1 ~ 2.5	30 ~ 60	6 ~ 30	0.4	300
25A	0.4 ~ 4	2 ~ 6	45 ~ 150	15 ~ 80	0.4	300
40A	0.8 ~ 8	3 ~ 10	90 ~ 250	40 ~ 100	0.5	350
50A	1.5 ~ 15	6 ~ 20	200 ~ 450	60 ~ 250	0.5	400
65A	2.5 ~ 25	12 ~ 30	350 ~ 800	150 ~ 400	0.5	500
80A	4 ~ 40	15 ~ 50	450 ~ 1000	150 ~ 600	0.5	500
100A	6 ~ 60	30 ~ 100	900 ~ 2000	300 ~ 1200	0.4	550
125A	10 ~ 100	60 ~ 120	2000 ~ 2500	600 ~ 1500	0.3	600
150A	15 ~ 150	100 ~ 200	3000 ~ 4000	1000 ~ 2000	0.2	650

• Air flow rates were measured at 1 atm, 20 °C. 0.1 MPaG = 1.02 kgf/cm2G
 • For flowmeters having flow rates and sizes other than these in the above table ask your dealer.

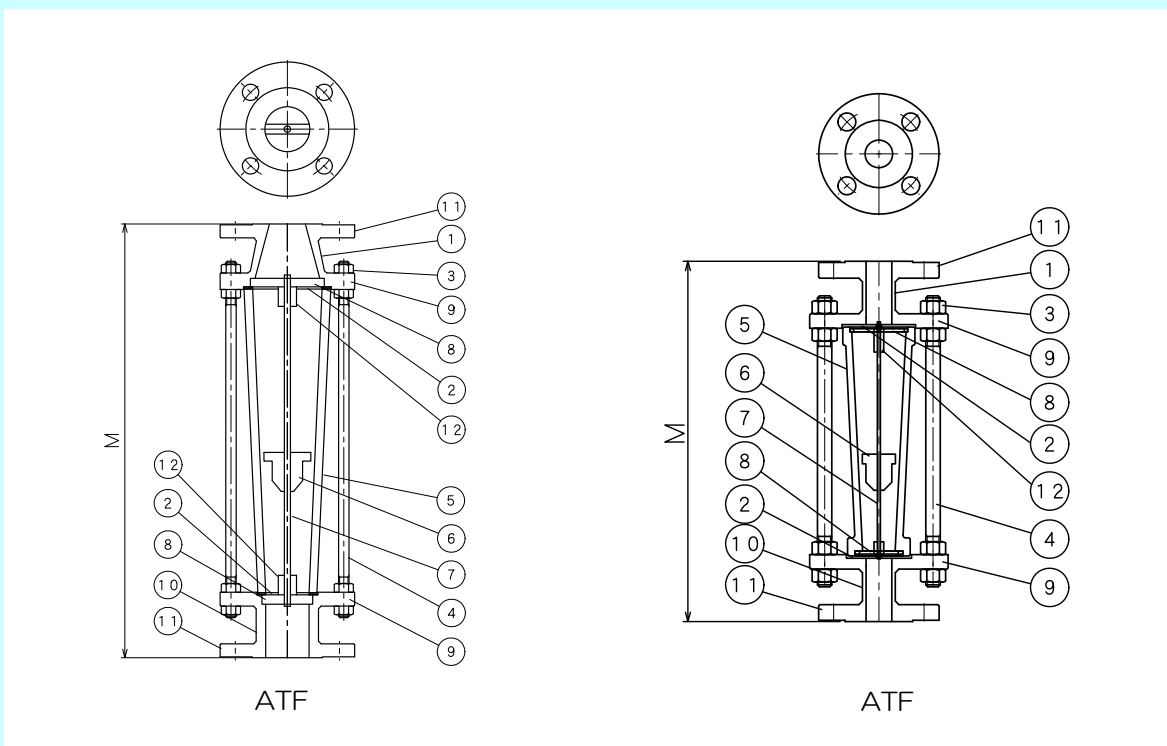
◆ SPECIFICATION (METAL TYPE)

Connection sizes	1/2" to 6" (15A to 150A)
Fluids	Liquids and Gases
Range ability	1 : 10 (10 ~ 100 %)
Accuracy	Within ± 2 % F.S.
Max. working pressure	Refer to "SCALE RANGE "
Working temperature	0 ~ +40 °C
Materials	SUS304 (Standard) SS400,SUS316, PVC-Lining (Option)
Connection rating	ANSI, JPI, JIS 10K RF FLANGE
Mount position	Bottom to Top

◆ ATF MATERIALS

Parts name		Material	NO.1	NO.2	NO.3	NO.4	NO.5
			Body:CS/wet Parts:304SS	Wet parts: SUS304	SUS304	SUS304	SUS316
①	Outlet		SS400	SUS304	SUS304	SUS316	CS-PVC
②	Packing		EPDM	EPDM	EPDM	EPDM	EPDM
③	Nut		SWRM	SWRM	SWRM	SWRM	SWRM
④	Bolts		SWRM	SWRM	SWRM	SWRM	SWRM
⑤	Taper tube		ACRYL	ACRYL	ACRYL	ACRYL	ACRYL
⑥	Float		SUS304	SUS304	SUS304	SUS316	PVC/PTFE
⑦	Float guide		SUS304	SUS304	SUS304	SUS316	PVC/PFA
⑧	Stopper		SS400/SUS316	SUS316/SUS304	SUS316/SUS304	SUS316	PVC
⑨	Flange		SS400	SS400	SUS304	SUS316	CS-PVC
⑩	Inlet		SS400	SUS304	SUS304	SUS316	CS-PVC
⑪	Flange		SS400	SS400	SUS304	SUS316	CS-PVC
⑫	Cushion		EPDM	EPDM	EPDM	EPDM	EPDM

- Standards are quality of the material NO.3
- Quality of the material NO.2 become the size more than 50A.



WARNING

The maximum working pressure and temperature of this flowmeter are 0.2 ~ 0.5 MPaG (2 ~5 kgf/cm² G) and 0~40 °C.
 Be sure to use the flowmeter within these conditions otherwise the acryl tube may be broken.
 If this condition is not kept, harm will join a human body.

- The pressure retaining part is made of acryl. Rough handling may cause serious accident.
- Keep in mind that taper tube will be damaged if a solvent is poured or a solvent is made to adhere to taper tube.

ACRYL TAPER TUBE TYPE FLOWMETER

ATF SERIES

The main parts quality of the material is PVC.



The Acryl tube type flowmeter ATF measures instantaneous flow rates of liquids and gases in a vertical pipe line. This direct reading type flowmeter has a simple construction making for easy maintenance.

◆ SPECIFICATION (PVC TYPE)

Connection sizes	15A to 100A (1/2" to 4")
Fluids	Liquids and gases
Range ability	1 : 10 (10-100 %)
Accuracy	Within ± 2 % F.S.
Max. working pressure	Refer to "SCALE RANGE "
Max. working temperature	PVC 0 ~ 40 °C
Materials	PVC (Standard)
Connection rating	ANSI , JPI , JIS 10K FF FLANGE
Mount position	Bottom to Top

◆ MODEL DESCRIPTION

A T F - □		CONTENTS
FLOW DIRECTION		BOTTOM TO TOP (WITHOUT FLOAT ROD) 15A
		BOTTOM TO TOP (WITH FLOAT ROD) 20A~100A
FUNCTION	AR 1	The one-point alarm of a reed switch
	AR 2	The two-point alarm of a reed switch
	AP 1	The one-point alarm of an optical sensor
	AP 2	The two-point alarm of an optical sensor
	AX 1	Intrinsically Safe Explosion one-point alarm of a reed switch
	S	Screw connection (Rc 1/2 ~ Rc1)
	CP	Protection cover Transparent PVC
	CA	Protection cover Transparent Acrylics
	C 1	Oil free (Fat free)
	C 2	Oil free



WARNING

The maximum working pressure and temperature of this flowmeter are 0.3 ~ 0.5 MPaG (3 ~ 5 kgf/cm² G) and 0~40 °C.
Be sure to use the flowmeter within these conditions otherwise the acryl tube may be broken.
If this condition is not kept, harm will join a human body.

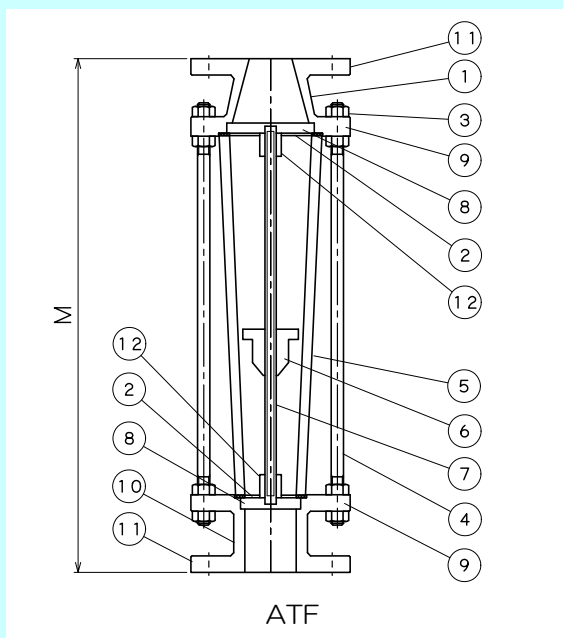
- The pressure retaining part is made of Acryl. Rough handling may cause serious accident.
- Keep in mind that taper tube will be damaged if a solvent is poured or a solvent is made to adhere to taper tube.

◆ SCALE RANGES PVC TYPE

Meter Size		Maximum Measuring scale range		Max. working pressure	Test pressure	Dimension mm
		H ₂ O (m ³ /h)	AIR m ³ /h(ntp)			
Float material		PVC	PVC	MPa(G)	MPa(G)	M
1/2	15A	0.12 ~ 1.2	1.8 ~ 15	0.4	0.6	280
3/4	20A	0.5 ~ 2.5	6 ~ 33	0.4	0.6	300
1	25A	1.2 ~ 6	14 ~ 80	0.4	0.6	300
1 · 1/2	40A	5 ~ 9.6	40 ~ 130	0.4	0.6	350
2	50A	9 ~ 20	60 ~ 260	0.4	0.6	400
2 · 1/2	65A	24 ~ 50	140 ~ 600	0.4	0.6	500
3	80A	24 ~ 50	140 ~ 600	0.3	0.45	500
4	100A	40 ~ 100	400 ~ 1000	0.3	0.45	550

- Air flow rates were measured at 1 atm, 20 °C. 0.1 MPa(G) = 1.02 kgf/cm²(G)
- For flowmeters having flow rates and sizes other than these in the above table ask your dealer.
- Please select the range of 1:10 from measuring range.

◆ MATERIALS



Parts		Material
		NO.6
		PVC
①	Outlet	PVC
②	Packing	EPDM
③	Nuts	SUS304
④	Bolt	SUS304
⑤	Taper tube	ACRYL
⑥	Float	PVC
⑦	Float guide	PVC/PFA
⑧	Stopper	PVC
⑨	Flange	PVC
⑩	Inlet	PVC
⑪	Flange	PVC
⑫	Cushion	EPDM/PTFE