

# Metal Tube VA Flow Meters

# FITD



LIQUID



## OVERVIEW

### Operation

Bass Instruments FITD series VA meter operation is based on the variable area principle. The all metal meter is ideal for a variety of gas, liquid and steam applications. These meters are indispensable where high pressure and/or high temperature operating conditions exist. The primary meter is available in 316/316L stainless steel as well as with a PTFE liner. But a wide range of corrosion resistant materials of construction are available which makes it a perfect fit for metering of aggressive applications. A broad range of connection sizes and types such as ASME, DIN and JIS flange choices along with several threaded options provide for flexible installations.

### Application

- Pharmaceutical industry
- Chemical processes
- Mechanical engineering
- Liquid Filling Machines

### Features

- Easy to install
- High accuracy
- Stainless steel rigid design
- Broad range of connection sizes
- Cost-effective solution
- Easy reading
- High sensitivity

## OPERATING DATA

<b>Working Pressure</b>	40 Bar, 320 Bar opsiyonel for DN15-DN50 16 Bar, 100 Bar opsiyonel for DN80-DN250
<b>Temperature Limit</b>	
<b>FITD.PK</b>	-80°C...+300°C standard 0°C...+80°C for PTFE High Temperature 400°C
<b>FITD.BT/ SK/ GK</b>	-40°C...120°C 0°C...+80°C for PTFE High Temperature 400°C
<b>Ambient Temperature</b>	
<b>FITD.PK</b>	-40°C...+120°C
<b>FITD.BT/ SK/ GK</b>	-20°C...+60°C
<b>Accuracy</b>	±1%, ±1.5%, ±2%, ±2.5% of FS
<b>Enclosure</b>	IP67
<b>Turndown Ratio</b>	10:1
<b>Straight Run Pipe Requi.</b>	Inlet : ≥5D Outlet : ≥250 mm
<b>Viscosity</b>	DN15: <30 mPa.s; DN25: n<250 mPa.s; DN50-250: n<300 mPa.s
<b>Hazardous Area</b>	EEx ia II CT5 EEx d II CT6

## MATERIALS

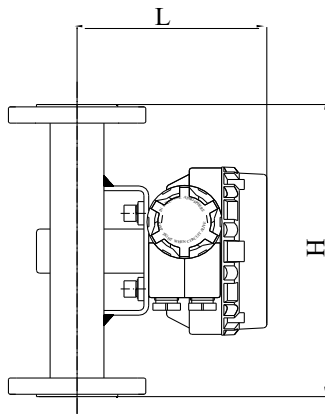
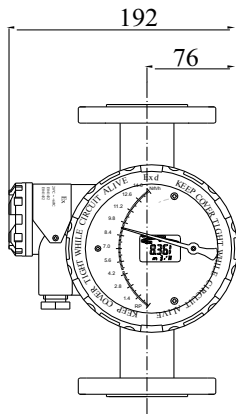
<b>Tube</b>	AISI 304, AISI 316, PV, PP, Hastelloy
<b>Flange</b>	AISI 304, AISI 316, PV, PP
<b>Float</b>	AISI 304, AISI 316, PV, PP, Hastelloy, Cu, Al

## MEASURING RANGES

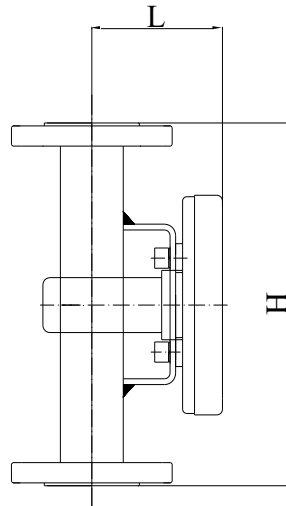
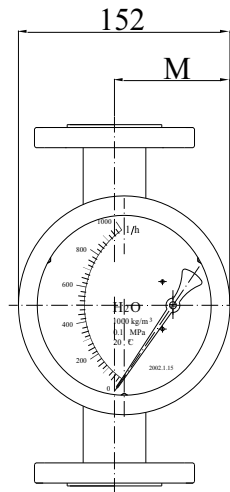
<b>Water</b>	20°C, 10-300000 L/h others on request
<b>Air</b>	0.1013 MPa, 20°C, 0.7-3000 Nm <sup>3</sup> /h others on request

Type	Water	Air	Connection
FITD.PK.015	1...10 l/h	0,03...0,3 Nm <sup>3</sup> /h	DN15
	2,5...25 l/h	0,06...0,6 Nm <sup>3</sup> /h	
	6...60 l/h	0,1...1 Nm <sup>3</sup> /h	
	10...100 l/h	0,16...1,6 Nm <sup>3</sup> /h	
	16...160 l/h	0,75...7 Nm <sup>3</sup> /h	
	25...250 l/h	1...10 Nm <sup>3</sup> /h	
	40...400 l/h	1,5...15 Nm <sup>3</sup> /h	
FITD.PK.020	60...600 l/h	1,8...18 Nm <sup>3</sup> /h	DN20
	100...1000 l/h	2,4...24 Nm <sup>3</sup> /h	
	160...1600 l/h	4,8...48 Nm <sup>3</sup> /h	
FITD.PK.025	250...2500 l/h	7,5...75 Nm <sup>3</sup> /h	DN25
	160...1600 l/h	7,5...75 Nm <sup>3</sup> /h	
	250...2500 l/h	10...100 Nm <sup>3</sup> /h	
	400...4000 l/h	15...150 Nm <sup>3</sup> /h	
FITD.PK.040	600...6000 l/h	18...180 Nm <sup>3</sup> /h	DN40
	1000...10000 l/h	30...300 Nm <sup>3</sup> /h	
	800...8000 l/h	24...240 Nm <sup>3</sup> /h	
FITD.PK.050	800...8000 l/h	30...300 Nm <sup>3</sup> /h	DN50
	1...10 m <sup>3</sup> /h	48...480 Nm <sup>3</sup> /h	
	1,6...16 m <sup>3</sup> /h	60...600 Nm <sup>3</sup> /h	
FITD.PK.065	2...20 m <sup>3</sup> /h	75...750 Nm <sup>3</sup> /h	DN65
	1,6...16 m <sup>3</sup> /h	60...600 Nm <sup>3</sup> /h	
	2,5...25 m <sup>3</sup> /h	90...900 Nm <sup>3</sup> /h	
FITD.PK.080	2,5...25 m <sup>3</sup> /h	120...1200 Nm <sup>3</sup> /h	DN80
	3...30 m <sup>3</sup> /h	150...1500 Nm <sup>3</sup> /h	
	6...60 m <sup>3</sup> /h	180...1800 Nm <sup>3</sup> /h	
FITD.PK.100	8...80 m <sup>3</sup> /h	210...2100 Nm <sup>3</sup> /h	DN100
	10...100 m <sup>3</sup> /h	240...2400 Nm <sup>3</sup> /h	
FITD.PK.125	12,5...125 m <sup>3</sup> /h	300...3000 Nm <sup>3</sup> /h	DN125
	15...150 m <sup>3</sup> /h	380...3800 Nm <sup>3</sup> /h	
FITD.PK.150	15...150 m <sup>3</sup> /h	380...3800 Nm <sup>3</sup> /h	DN150
	18...180 m <sup>3</sup> /h	450...4500 Nm <sup>3</sup> /h	
	20...200 m <sup>3</sup> /h	500...5000 Nm <sup>3</sup> /h	

## TECHNICAL DRAWINGS AND DIMENSIONS



Dimensions		H	L
Nominal size	DN15	250	150
	DN20	250	156
	DN25	250	159
	DN32	250	165
	DN40	250	171
	DN50	250	174
	DN65	250	181
	DN80	250	188
	DN100	250	197
	DN125	400	207
	DN150	400	221
	DN200	450	246
DN250	500	273	



Dimensions				
Nominal size	DN15	250	56	78
	DN20	250	62	83
	DN25	250	65	87
	DN32	250	71	93
	DN40	250	77	98
	DN50	250	80	101
	DN65	250	88	110
	DN80	250	95	115
	DN100	250	103	125
	DN125	400	113	134
	DN150	400	127	150
	DN200	450	152	174
DN250	500	178	200	

## ELECTRICAL DATA( FOR GK, SK, BT)

### Signal Output

Pulse (push-pull)

### Power Supply

4...20 mA or 0...10 V DC on request

### Electrical Connection

15-70 VDC, 220 VAC/45-65 Hz

### Display "relay operating"

M20x1.5, 1/2"G, 1/2"NPT, 3/4"G, 3/4"NPT (for type GK and SK)

### Ex Electrical Information

LED

### Ex Barrier Information

$U_i = 28 \text{ V}$ ,  $I_i = 93 \text{ mA}$ ,  $P_i = 0.65 \text{ W}$ ,  $C_i \leq 5 \text{ nF}$ ,  $L_i = 0 \text{ mH}$

$U_o \leq 28 \text{ V}$ ,  $I_o \leq 93 \text{ mA}$ ,  $P_o \leq 0.65 \text{ W}$ ,  $C_o \geq C_i + C_c$ ,  $L_o \geq L_i + L_c$

# ORDERING

FITD.PK						Mechanical indicator
FITD.GK						Mechanical indicator with LCD display
FITD.SK						Mechanical indicator with switches selectable
FITD.BT						Mechanical indicator battery powered (LCD display)
Pipe Diameter	XXX					Specify in standard pipe diameter max. DN250 (example DN50: 050)
Tube Material		04				AISI 304 stainless steel
		16				AISI 316 stainless steel
		PV				PVC
		PP				PP (Polypropylene)
		HA				Hastelloy
Flange Material		04				AISI 304 stainless steel
		16				AISI 316 stainless steel
		PV				PVC
		PP				PP (Polypropylene)
Float Material		04				AISI 304 stainless steel
		16				AISI 316 stainless steel
		PV				PVC
		PP				PP (Polypropylene)
		HA				Hastelloy
		CU				Copper
Accuracy			10			Aluminum
			15			±1% FS
			20			±1.5% FS
			25			±2% FS
Connection				F		±2.5% FS
				T		Flange
				H		Thread
Enclosure					1	Hygiene Clamp
						2
Hazardous Area						IP68
				N		None
				Xi		EEx ia II CT5
				Xd		EEx d II CT6