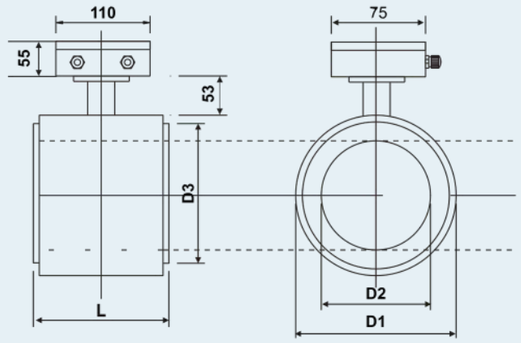
Flow Rate Table

Flow Rate at v - 1m/s

DN	m3/hr	LPM	LPS
50	7.068	117.809	1.963
65	11.945	199.098	3.318
80	18.095	301.592	5.026
100	28.274	471.238	7.853
125	44.178	736.310	12.271
150	63.617	1060.287	17.671
200	113.097	1884.955	31.415



ALL DIMENSIONS ARE IN mm.

MTRSize	D1	D2	D3	L
DN50	104	43.5	92.0	107
DN65	123	53.5	105.0	128
DN80	136	69.0	127.0	128
DN100	174	93.5	157.0	160
DN125	196	118.0	186.0	160
DN150	222	144.0	216.0	160
DN200	305	192.0	285.0	220

ORDERING INFORMATION

Sample code explained: SMART JAL-DN65-PTFE-SS316L-NA-NA-SS304-SJ 1102-2D-RS4-RMT-U

SMART JAL — Flow Sensor Type

Wafer	: JAL
Wafer SMART	: SMART JAL

DN65 — Flow Sensor Size

DN 50	: 2"	DN 125	: 5"
DN 65	: 2 ½"	DN 150	: 6"
DN 80	: 3"	DN 200	: 8"
DN 100	: 4"		

PTFE — Liner Material

PTFE	: PTFE
Neoprene	: NE
Soft Rubber	: SR
Hard Rubber	: HR
PFA	: PFA
Any Other	: ZZ

SS316L — Electrode Material

Stainless Steel 316	: SS316L
Hastelloy C	: HAST'C

NA — Flange/End Connection Standards

NA	: NA

NA — Flange / End Connection Material

NA	: NA

SS304 — Body Material

Carbon Steel	: CS
Stainless Steel 304	: SS304
Stainless Steel 316	: SS316

SJ1102 — Flow Transmitter

Mag Flow Transmitter	: MFT01
SMART Jal-oagh Transmitter	: SJ1102

2D — Flow Transmitter Type

Blind	: B
Indication Display	: 1 D
Indication & Totalization	: 2 D

RS4 — Communication Facility

No Communication	: NA
RS 232	: RS2
RS 485	: RS4

RMT — Mounting

Integral	: INT
Remote Wall	: RMT

U — Power supply

110 V AC ± 10%, 50 Hz	: 1
230 V AC ± 10%, 50 Hz	: 2
24 V DC	: 3
*85-265 V AC, 50 Hz	: U
Any Other	: Z

Note: Wafer Style flowmeter is available from line size DN 50 to DN 200.
*This Power Supply option is applicable only to SJ-1102

Due to continuous development specifications are subject to change without prior notice.

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www.manasmicro.com

MAKE IN INDIA

We are certified with:
ISO/IEC 17025:2017 | ISO 9001:2015 | ISO 14001:2015 | OHSAS 45001:2018

WAFER TYPE FLOW METER

JAL-OAGH

We are certified with
ISO/IEC 17025:2017 | ISO 9001:2015
ISO 14001:2015 | OHSAS 45001:2018

JAL-OAGH

INTRODUCTION

- Know your water consumption
- Not just by assumption
- But by correct instrumentation
- Jal-Oagh provides the solution

MANAS has introduced a new economical series of E.M.F., considering water as the most important utility in any industry.

JAL-OAGH,
300 SERIES OF EMF

These flow meters are dedicated to waste water management system, sewage and effluent water measurement. Wafer is available from DN 50 to DN 200 i.e. Jal-Oagh 300 Series.

PRINCIPLE OF OPERATION

The JAL-OAGH series of electromagnetic flow meters work on FARADAY'S LAW OF ELECTROMAGNETIC INDUCTION. When a conductor moves within a magnetic field, voltage is induced in it which is proportional to the velocity of the conductor.

In this case, the conductor is flowing media.
The equation is as below:

E = B.v.D

Where

E = Induced voltage [proportional to velocity]

B = Magnetic flux density

v = Mean velocity of the media

d = distance between the sensing electrodes

For a given size of flow tube & and compatible amplifier the flux density 'B' is constant, and the distance between the electrodes is constant. Hence, the induced voltage is proportional to the velocity of the flowing media. Thus the unit can be calibrated in terms of volumetric flow rate by knowing the cross-sectional area of the tube.

PRINCIPAL ADVANTAGES

- Small in size, Light in weight compared to other magnetic meters in its class
- Full-bore electromagnetic flow meter with absolutely no restriction to flow
- Has a typical accuracy of ±0.5%
- Measurement is independent of the velocity profile across the pipe
- Measurement results are independent of density, viscosity, pressure, temperature, solid impurities, and conductivity variations (above 5 µS/cm for MFT-01 and above 20 µS/cm for (SJ-1102)
- Fits in between the flanges of the pipe which makes it the most compact solution for flow measurement
- Compatible virtually with all corrosive and non-corrosive liquids
- It is a very cost-effective and economical flow meter as compared to other flow meters in its class

APPLICATIONS

- Effluent Treatment: Untreated as well as Treated Effluent Water Measurement
- Sewage Treatment: Wastewater measurement, Sludge measurement, etc.
- Water Supply Schemes: Raw water as well as treated water measurement
- Boiler Feed Water Measurement
- Chemical Industries: Measurement of acidic and alkaline chemicals and slurries

ERROR DIAGRAM

SPECIFICATIONS
PRIMARY FLOW TUBE : JAL-OAGH

Metering tube	:Jal-oagh 301(Wafer-Rubber) Jal-oagh 302 (Wafer- PTFE) Jal-oagh 303 (Wafer-Rubber-SMART) Jal-oagh 304 (Wafer-PTFE-SMART)
Meter Size	: DN 50-DN 200 (Wafer)
Media Pressure	: Upto DN80 - PN40 From DN100 - DN150 - PN16 DN200 - PN10
Media Temperature	: Rubber Liner 0 - 90 °C max PTFE Liner 0 - 150 °C max
Operating Temperature	: 0-50 °C
Material of Construction	: a) Flow Tube: SS 304 (non-magnetic) b) Electrodes: SS 316, Hastelloy'C c) Liner: Ebonite, PTFE d) Body material: SS 304
End Connections	: Wafer: DN 50 - DN 200 Meter to be sandwiched between Two ANSI150 class Flanges
Power Supply to field coils	: Pulsed D.C.
Ingress Protection	: IP68

JAL-OAGH MFT- 01

Mounting	: Integral / Remote Mounting
Min Media Conductivity	: Greater than 5 µS/cm
Input	: Micro-volt Signal proportional to flow rate from primary Flow sensor
Signal Output	: i)4-20mA DC isolated in max 600 prop. to 0-100% of flow rate ii) Pulsed output with adjustable count rate from 1 count/Hr to 105 counts/ Hr (Open collector with 30 mA/ 24 V DC capacity). (Optional)
Local Display	: i) 3½ digit, 0.5" LCD calibrated in % or engineering units ii) 8 digit LCD non-resettable type for totalized quantity
Ranges	: 4 fixed ranges I) 1.25 ii) 2.50 iii) 5.00 iv) 10.00 m/s FS
Flow Velocity Range	: 0.1 m/s to 10 m/s
Accuracy	: Maximum Inaccuracy 1% of reading between 100% to 10% of calibrated flow range
Repeatability	: 0. 2% of reading
Operating Temperature	: 0-50 °C
Temperature Drift	: 0.015% per °C
Material of Housing	: Al Die Cast
Power Supply	: 230VAC/ 110VAC, 50 Hz
Cable Entries	: 4 nos for remote transmitter 2 nos for integral transmitter PG 11/ ½" NPT/ ½" BSP
Ingress Protection	: IP67

SMART JAL-OAGH (SJ-1102)

Mounting	: Integral / Remote Mounting - Wall Mounting / 2" Pipe Mounting
Min Media Conductivity	: Greater than 20µS/cm
Input	: 1. Micro-volt signal prop. to flow rate from Primary flow sensor 2. Empty Tube signal from primary flow sensor 3. Signal Output (Optional) : i) 4- 20 mA dc(Isolated) in max. 600 Ohms prop. to 0 -100 % flow rate. ii) Pulsed output with adjustable count rate from 1 count/Hr to 105 counts/ Hr (Open collector with 30 mA/ 24 V DC capacity).(Optional)
Local Display	: 16 characters x 2 rows LCD Display for Instantaneous Flow Rate, Totaliser, Engineering Units, Fault messages
Ranges	: 4 fixed ranges I) 1.25 ii) 2.50 iii) 5.00 iv) 10.00 m/s FS
Flow Velocity Range	: 0.3 m/s to 10 m/s
Accuracy	: Maximum Inaccuracy 1% of reading between 100% to 10% of calibrated flow range
Repeatability	: 0. 2% of reading
Operating Temperature	: 0- 50 °C
Temperature Drift	: 0.015% per °C
Material of Housing	: Al Die cast
Power Supply	: 85 V AC to 265 V AC, 50 HZ
Cable Entries	: 4 nos for remote transmitter 2 nos for integral transmitter PG 11
Ingress Protection	: IP67
Keyboard	: 4 Number of Keys for Parameter Programming
COMM PORT (Optional)	: RS232 / RS485 (Protocol MODBUS RTU)