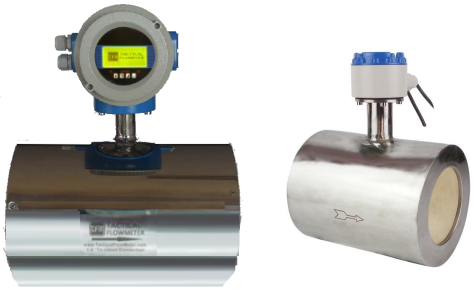
https://www.tacticalflowmeter.com/

642 Indian Springs Road, Salinas, CA 93
(831)-455-0418
Dave@TacticalFlowMeter.com

# CutSheet WAFER MAG Meter with $Al_2O_3$ CERAMIC Liner



◆ Flow sensor for Wafer MAG flowmeters
– Flow sensor with $Al_2O_3$ ceramic liner

◆Ceramic Flow Tube MAG flowmeters
– Measuring tube using $Al_2O_3$ceramic material

## Highlights

| |
|---|
| ■ Tube with high-tech $Al_2O_3$ ceramic material, fully vacuum-tolerant |
| ■ Special tube design using conical flow tubes thereby optimizing the flow profile. |
| ■ The smooth and pore free ceramic tube construction has exceptional high leak integrity. |
| ■ Insensitive to temperature shock, exceptional long-term stability and accuracy. |
| ■ Ideal for Highly aggressive and abrasive fluids and abrasive slurry applications. |
| ■ Stable measurement in noisy applications. |
| ■ Improved safety with absolute leak tight design making it suitable for hygienic applications. |
| ■ Excellent chemical and abrasion resistance, fulfilling requirements of the chemical industry. |
| ■ Accuracy：0.5% Reading |
| ■ Nominal Diameter of 1/2" to 8" |
| ■ Nominal Pressure：150 lb, or optional 300 lb (ASME B16.5). |

| **Industries：** | **Applications：** |
|---|---|
| ■ Chemical | ■ Master transfer meter |
| Pulp & Paper | ■ Precise volumetric dosing of additives |
| ■ (Waste) water | ■ Chemical injection |
| ■ Minerals & Mining | ■ For acids, alkaline, paste, slurries and many other aggressive media even with high solid content. |
| ■ Food & beverage | |
| ■ Machinery | |
| ■ Power Plant (Coal-water slurries) | |

https://www.tacticalflowmeter.com/

642 Indian Springs Road, Salinas, CA 93
(831)-455-0418
Dave@TacticalFlowMeter.com

## Electromagnetic Flowmeter Electronics Features

1. Programmable low frequency square wave field excitation, excitation frequency: mode 1 (1/8), mode 2 (1/16), mode 3 (1/32) of the power frequency.
2. Excitation current may be selected from 100mA to 500mA
3. Bi-directional measurement, flow ranges form 0.1 to 15 m/s.
4. Empty pipe detection and suitable for many electrically conductive liquids.
5. Optional AC power ranges from 85VAC - 250VAC, 45 - 63Hz.
6. DC power ranges from 16VDC - 36VDC, nominal 24 VDC at 500 mA.
7. Isolated RS485/RS232C communication interface supports MODBUS RTU.
8. Three internal totalizers: forward totalizer, backward totalizer and net totalizer.
9. Signal outputs: Analog output: 0-10mA or 4-20mA, Pulse output: 0 - 5000Hz.

## Features

1. Programmable low frequency square wave field excitation, improves measurement stability and reduced power consumption.
2. Utilizes 16 bit MCU, providing high integration and accuracy.
3. Full-digital processing, high noise resistance resulting in stable flow measurement.
4. Optional for AC features Low EMI switched mode power supply, providing wide mains range adaptability, high efficiency and low temperature rise.
5. User-friendly LCD user interface.
6. Backlight LCD display tolerates -20℃ - +70℃ temperature range.
7. Forward and reverse flow measurement.
8. Three independent 10-digit totalizers: forward, reverse and net totalizer.
9. RS485 interface supports up to 1.24 miles or 2km distance at 14400 bps.
10. Intelligent empty pipe detection and electrode resistance measurement capability for diagnosing empty pipe and electrodes contamination accurately.
11. Electronics features 'Rate-Of-Change Limit' technology to eliminate electrical noise created in the flow signal and stabilizes the display and outputs.
12. Totalizer features a remote control function, providing a contact for starting and stopping totalizing, convenient for calibration synchronization or batch processing.
13. Non-volatile memory, stores all parameter settings and measurement data.
14. Optional real-time clock, power-failure and history data logging function, can store up to 30 days of measurement records.
15. Local or optional remote display.
16. System self-diagnosics function.

| **Technical data :** | |
|---|---|
| Features | Wafer version with optimized ceramic flow tube. |
| Local version | With MAG-L Local electronics: TACTICAL L |
| Compact version | With MAG-C electronics: TACTICAL C |
| Remote version | In wall mount version with MAG-R electronics: TACTICAL R |
| Nominal diameter | ANSI Sizes from 1/2" to 8 |
| Measurement range | Flow velocity: 0 - +15 m/s / 0 - +49 ft/s |
| Measurement accuracy | Standard: ±0.5% of measured value (mv) or ±3 mm/s |
| | Optional: ±0.2% of measured value (mv) or ±2 mm/s |
| Repeatability | ±0.1% of measured value (mv) |
| Process temperature(*) | Compact version: -40 - +140°C / -40 - +284°F |
| | Remote version: -40 - +180°C / -40 - +356°F |
| Max Temp change (shock) | 120°C / 248°F |
| Ambient temperature(*) | -10 - +55°C / +14 - +131°F |
| Storage temperature | -50 - +70°C / -58 - +158°F |
| Nominal pressure | Standard: PN150 150 lb ANSI 1/2"to 8" |
| | Optional: PN300 300 lb ANSI 1/2" to 4" |
| Vacuum load | 0 mbar / 0 psi |

642 Indian Springs Road, Salinas, CA 93
(831)-455-0418
Dave@TacticalFlowMeter.com

| | |
|---|---|
| Minimum Electrical conductivity | ≥ 5 μS/cm |
| Allowable gas content | ≤ 5% (by volume) |
| Allowable solid content | ≤ 70% (by volume) |
| Inlet pipe ID Requirements | ≥ 5 Pipe ID (without disturbing flow, after a single 90° bend) |
| | ≥ 10 Pipe ID (after a double bend 2x 90°) |
| | ≥ 10 Pipe ID (after a control valve) |
| Outlet pipe ID Requirements | ≥ 2 Pipe ID |
| Sensor flow body | Standard: 304 SS; Optional: 316L SS |
| Measuring tube | Ceramic MICHAEL.. What is it.. ALO3?? |
| Connection box (remote versions only) | Standard:Polyurethane coated die-cast aluminium |
| | Optional:Stainless steel |
| Grounding rings | Standard: 304（304）Stainless steel |
| | Option: 316（316）,HC, titanium, tantalum, etc |
| Measuring electrodes | Titanium Stabilized 316 Stainless Steel, Cermet, optional HC, titanium, tantalum, etc. |
| Protection | Standard: IP 65 (Remote), IP 67 (Compact) |
| | Option: IP 68 (Remote) |