SITRANS F M MAGFLO
Electromagnetic Flowmeters
Explore the Siemens Solution

sitrans f MAGFLO

What makes MAGFLO simply better?

MAGFLO flowmeters will help you do an easier job of managing flow. Whether it is installation, managing operations or verifying continuous accuracy, customers rely on MAGFLO to improve the entire value chain of activities.

Greater flexibility
- Wide product program
- Compact or remote installation using the same transmitter and sensor
- USM II communication platform for easy integration with all systems

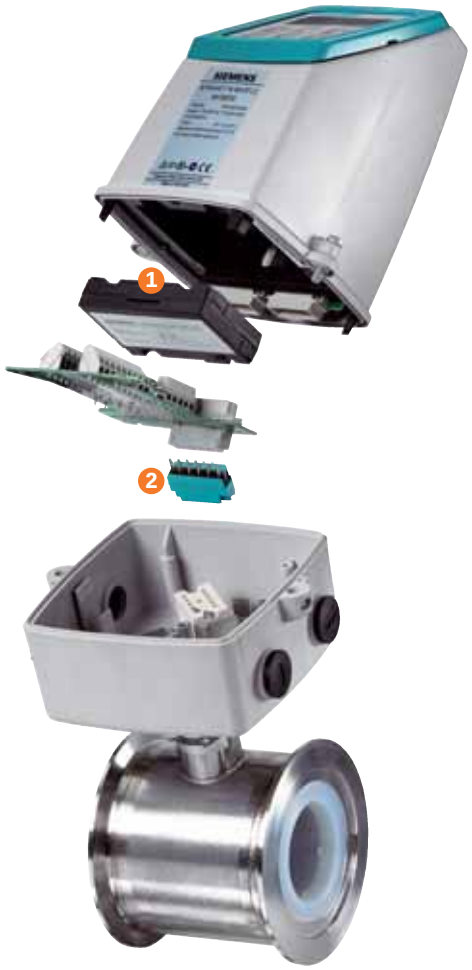
Easier to commission
- SENSORPROM enables instant measurement from the start of power-up
- User settings automatically stored in the SENSORPROM

Easier to operate & maintain
- No moving parts
- Robust construction and materials
- Uniform user interface for all MAGFLO products

Easier to service
- Transmitter replacement requires no programming. SENSORPROM automatically updates all settings after initialization.

Room for growth
- Plug & Play communication modules are available in a wide range of bus-protocols
- Add-on communication modules allow future upgrades without investing in a new flowmeter.

Diagnostics:
Application and metering
- Identification in clear text and Error-log
- Error categories: function; warning; permanent and fatal
- Transmitter self check including outputs and accuracy
- Sensor check
- Overflow
- Empty pipe; partical filling; low conductivity; electrode fouling
- System verification with MAGFLO Verificator



1 Plug & Play Communication Module

2 SENSORPROM

The dedicated MAGFLO program

Siemens offers a comprehensive selection of flowmeter technologies.

Choosing the right flowmeter for the right application can dramatically improve your operations...and improve your bottom line.
Get industry-specific solutions for:

- **Water & Wastewater**
- **Chemical**
- **Food & Beverage**
- **Pharmaceutical**
- **Mining/Aggregates/Cement**
- **Pulp & paper**
- **Power & Utilities**

Siemens can provide the best electromagnetic flowmeter options available. With Siemens flowmeters you get:

- The best value for the money
- The highest quality and most advanced technology
- User-friendly products and services
- Superior worldwide service and support

Touchpad
Touch response keypad with LED light feedback for safe & easy operation.

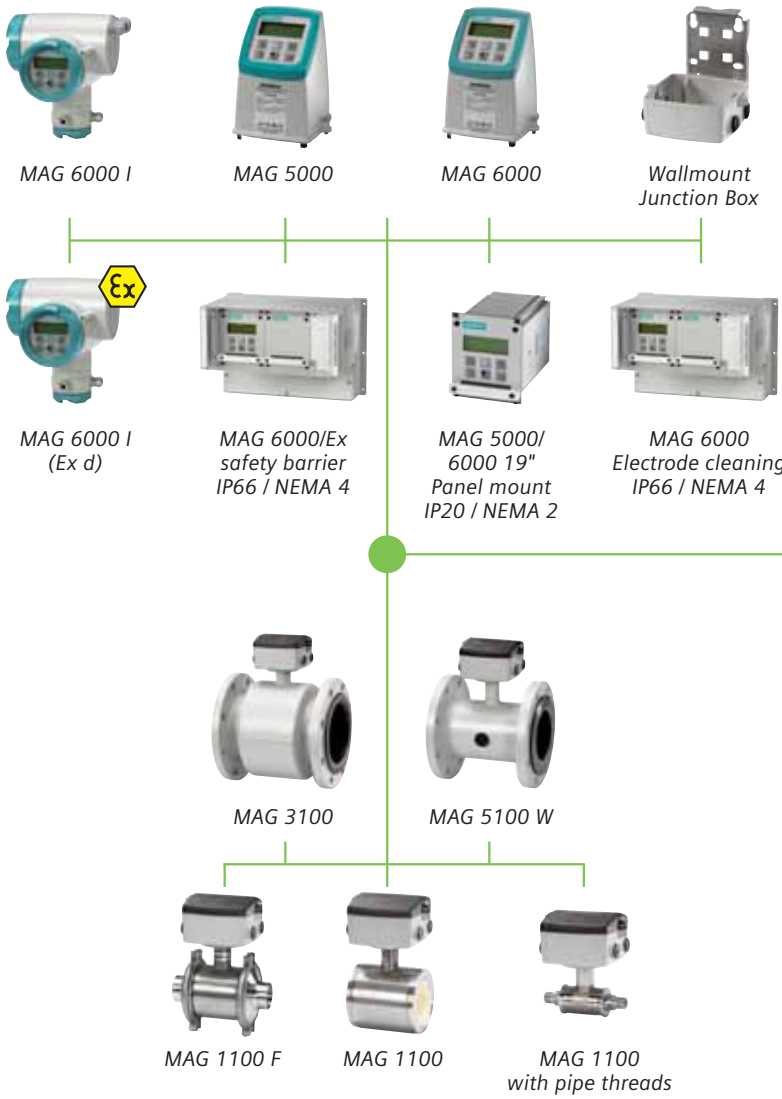
SENSORPROM
The memory unit will store calibration, programming and setup data.

Communication Modules
The USM II makes flowmeter networking installation and configuration easy. It is compatible with virtually every communication standard.

MAGFLO Verificator
In-situ verification to ensure continuous accuracy and confident flow measuring.

One Platform. Infinite Solutions

Thanks to Siemens philosophy of modular design, we are making it easy to buy the magnetic flowmeter solutions and services you need.

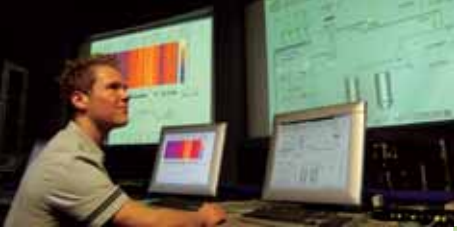


Modular pulsed DC magnetic flowmeters
You can combine all the basic components of our flowmeters – the transmitters, sensors and more – because they are engineered on the shared Siemens technology platform.

One of a kind technologies
Siemens offers industry specific and proprietary solutions:

TRANSMAG 2
*The patented **pulsed AC** magnetic flowmeter*
The ideal solution for mining, cement, and pulp & paper.

MAG 8000
***Battery-powered** magnetic water meters for distribution, revenue and irrigation.*



Control room

Totally Integrated Automation

Gain full performance in the Value Chain

Totally Integrated Automation Solutions – only from Siemens

With its Totally Integrated Automation (TIA) strategy, Siemens is in a class of its own as the sole provider of a common solutions platform for all industries. Designed for the individual customer demands, TIA enables the realization of industry specific automation solutions that significantly increase production while also offering sound investment security. These solutions are designed to ideally support companies in optimizing their plant, system and process flows.

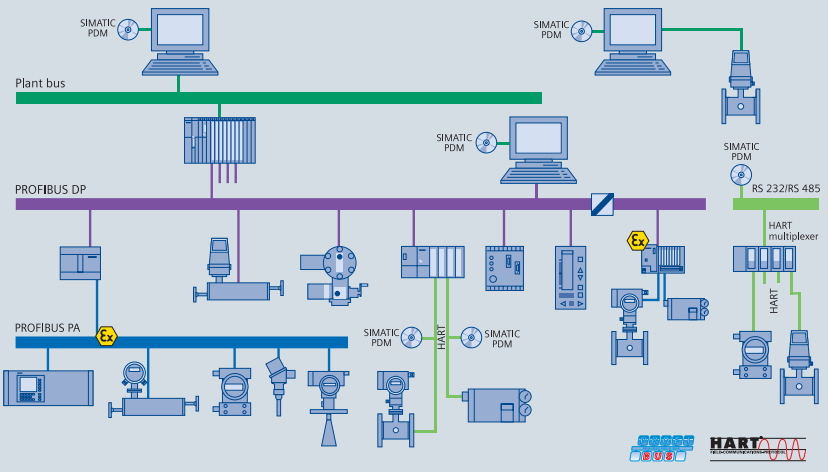
Best of all, Siemens TIA solutions are completely scalable.

You can start with a stand-alone installation today, secure in the knowledge that you can always integrate your system tomorrow.

- Confirm flowmeters are operating optimally and are properly utilized
- Reduce downtime through predictive maintenance programs
- Access real-time flow data
- Generate the highest yield by driving down waste and costs
- SIMATIC PDM software tool for the operation, configuration, parameterization, maintenance and diagnosis of intelligent field instruments based on the worldwide leading EDDL standard

Combine and integrate with Totally Integrated Automation

Control level/Field level



SIMATIC PDM

SIMATIC PDM allows a wide variety of process devices to be configured using one software system and one uniform graphical user interface.

The Transmitter Program
What's right for you?

MAG 5000 and MAG 6000
For high performance, easy operation and reduced maintenance.
MAG 5000 is the truly robust solution for all-around applications. MAG 6000 is for the more demanding applications where higher accuracy and greater functionality is required.

MAG 6000 Industry
This transmitter is designed for the special demands in the process industry. The robust, full-metal housing provides superb protection, even in the harshest industrial environments. Full input and output functionality is given even in the ATEX EEx d version.

Guaranteed Performance
- Compact or Remote Installation
- Superior signal resolution for optimized turn-down ratio
- Digital Signal Processing with unlimited possibilities
- User configurable operation menu with password protection
- Multiple functional output for process control
- Self-diagnostics for error detection and logging
- Batch control
- Multi-lingual display and keypad
- Custody Transfer Approved
- Electrode cleaning accessory option

SENSORPROM
Each flow meter has its own identity stored in the SENSORPROM.

The information consists of:
- Calibration data
- "Fingerprint" – magnetism properties
- User setup and programming data
- Sensor information and identification

The individual calibration and fingerprint data are pre-programmed at the factory, whereas the setup data are customer-specific. This unique combination ensures a cost effective, easy and error-free installation.

"Plug & Play" Communication Modules
USM II (Universal Signal Module) is "Plug & Play" at its very best. It makes flowmeter networking installation and configuration easy.

And it is compatible with virtually every communication standard used today, including PROFIBUS PA/DP, HART and Modbus RTU.

Transmitter	MAG 5000	MAG 6000	MAG 6000 I	MAG 6000 I (Ex d)
Enclosure	IP67 / NEMA 4X or IP20/66 / NEMA 2/4 Polyamid		IP67 / NEMA 4X die-cast aluminium	
Max measuring Error	0.50 % of rate	0.25 % of rate		
Display	3 line alpha numeric LCD with back light			
Inputs & outputs	1 digital input, 1 current output, 1 pulse/frequency output, 1 relay output			
Communication	HART	HART; Profibus PA/DP; Modbus RTU		HART; Profibus PA
Batch function	No	Yes	Yes	Yes
Power Supply	12 – 24 V AC/DC / 115 – 230 V AC		18 – 90 DC / 115-230 AC	24 V DC / 115 – 230 V AC
Approvals	CE; cULus; C-Tick			EEx d [ia] ia [ib] ib IIB/IIC T6
	FM/CSA Class 1, Div 2			FM Class 1, Div 2
Custody Transfer Approval	Cold Water, OIML R 49; MI001	Cold Water, OIML R 49; MI001, Hot Water, Other Liquids		

The Sensor Program
Sensible. Flexible. Reliable

MAG 1100
The flangeless wafer design that meets all flange standards. The MAG 1100 is used in all industries where the corrosion-resistant stainless steel housing and the highly resistant liner and electrodes fit even the most extreme process media.

MAG 1100 FOOD
Especially designed for the food & beverage and pharmaceutical industry, it offers unique and flexible process connections. It was the first to pass the EHEDG hygienic test and meets all sanitary standards. Its performance is unaffected by suspended solids, viscosity and temperature challenges.

MAG 5100 WATER
A sensor for all water and wastewater applications. With its coned design, increased low-flow accuracy is achieved, making it especially useful for leak detection. It can be made suitable for direct burial and constant flooding. MAG 5100 W complies with drinking water and custody transfer approvals.

MAG 3100
This flexible and comprehensive sensor program offers a wide range of sizes. Liners and measuring electrodes capable of withstanding the most extreme processes are available. Fully welded construction provides a ruggedness that suits the toughest environments.

Flow measurement based on Faraday's law
The coils in the sensor generate a consistent magnetic field. The liquid flowing through the sensor induces a voltage proportional to the flow velocity.

Sensor	MAG 1100	MAG 1100 F	MAG 3100	MAG 5100 W
Size DN	2 – 100 mm / $^{1}/_{12}$" to 4"	10 –100 mm / $^{3}/_{8}$" to 4"	15 – 2000 mm / $^{3}/_{8}$" to 78"	25 – 1200 mm / 1" to 48"
Process temperature	-20 – 200 °C / -5 – 400 °F	-30 – 150 °C / -20 – 300 °F	-40 – 180 °C / -40 – 350 °F	-5 – 70 °C / 23 – 160 °F
Pressure rating max.	PN 40 / Max 600 PSI		PN 100 / Max 1500 PSI*	PN 10 & 16 / ANSI 150 / AWWA D / As 4087
Liner Material	Ceramic PFA		Neoprene, EPDM, Ebonite, LINATEX, PTFE, NOVOLAK	Hard NBR rubber EPDM
Electrode Material	Platinum Hastelloy C		AISI 316 Ti, Hastelloy C, Titanium, Tantalum, Platinum	Hastelloy C276
Approvals		3A & EHEDG	Custody Transfer OIML R117 and 75	Custody Transfer OIMP R 49/ MI001; Drinking Water WRAS; NSF; DVGW; KTW; ACS
	ATEX EEx [ia] [ib] IIB/IIC T4-T6		ATEX EEx [ia] [ib] IIB/IIC T4-T6 ATEX EEx e [ia] IIC T3 - T6	
	FM/CSA Class 1, Div 2			

** Optional high-pressure versions available*

Water Supply and Metering MAG 8000 for applications everywhere

MAG 8000
6 years of non-stop battery driven performance – no mains power required

MAG 8000 is an affordable battery-driven solution that gives you the flexibility to install a reliable water meter virtually anywhere without sacrificing accuracy or performance. No mains power is required.

MAG 8000 is approved according to the OIML R49 / MI 001 EU directive water meter standard and is specially engineered for water applications:
- Abstraction
- Distribution/network
- Revenue
- Irrigation

Outstanding performance
MAG 8000 delivers best-in-class performance to optimize water supply. It is optimized for leakage detection and for billing.
- Easy to install
- Superior measurement
- Intelligent information
- Open communication platform
- Long lasting performance
- Minimum cost of ownership

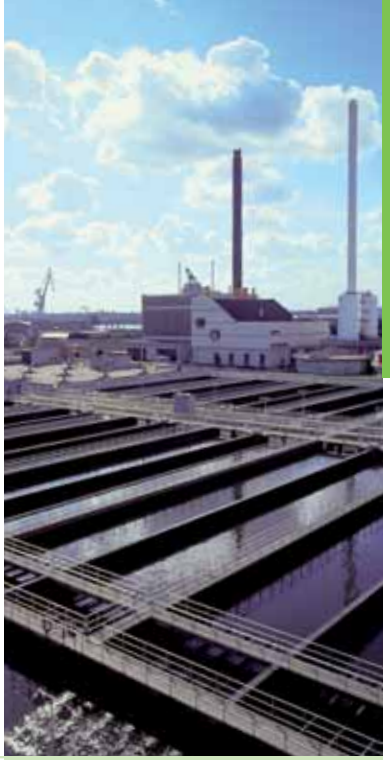
Intelligent, battery-driven operation
With a combination of high efficiency technology and advanced power management, MAG 8000 can be trusted to deliver long lasting, dependable operation for 6-10 years in a typical revenue application.

Battery pack available as an integrated or external battery pack with an IP68 / NEMA 6 enclosure and connection. Graphical display and keypad for simple operation and instant access to information.

Low-flow Detection
The MAG 8000 is a low-flow detection sensor (DN 50-300/2"-12"). Its coned flow tube design greatly improves low-flow performance with minimal pressure drop.

MAG 8000	
Transmitter type	Basic water version for general purpose
	Advanced water version for advanced information and functionality
Custody transfer version	For billing purpose. Type approved and verified according to OIML R49/MI001
Sensor Size	DN 25-600 mm / 1"-24" with hard NBR rubber elastomer
Enclosure	IP68 / NEMA 6P, compact & remote with connectors and factory mounted cable
Display	Graphical display with touch keypad
Output	2 individual pulse outputs (include net flow volume)
Communication	Integrated standard IrDA interface. Add on communication modules, RS 232/RS 485 with MODBUS RTU protocol
Power Supply	Internal or external battery pack. Mains power supply with battery backup. 12/24 V AC/DC and 115-230 V AC
Features	Data logger with selectable log interval up to 26 months
	Leakage detection (advanced version only)
	Flow statistics and consumption profile (advanced version only)
	Advanced diagnostics (advanced version only) and self-check

Water and Wastewater
MAGFLO for water processes



Cost effective solution

The MAG 5000 transmitter and MAG 5100 W sensor are the perfect match for a cost effective solution.

- One solution for all your water & wastewater applications
- No moving parts ensures long term performance
- Hard NBR rubber liner guarantees consistent accuracy
- Highly resistant to a wide range of chemicals used in treatment plants
- Increased low-flow measurement for leak detection
- Sensor suitable for burial and constant flooding
- Drinking water approvals
- Complies with most international standards and agency approvals
- Built-in ground electrodes eliminate grounding rings

Process optimisation
MAG 6000 with the USM II add-on communication platform makes it easy to integrate MAGFLO information into process applications.

Realize the full benefits of automation
- Optimize management and process control
- Ensure correct dosing and product quality
- Minimise process time and consumption of high-cost chemicals

The Siemens product range provides sensors from 2 mm up to 2000 mm and from 1/12" up to 78".

In-situ MAGFLO Verification
Your guarantee for continuous accurate measurement.

- Correct revenue metering
- Confidence in process and product quality
- As hand-over of new installations to ensure correct installation
- ISO 9000 and ISO 14001

Hazardous areas
MAG 6000 I (Ex d) available for use in hazardous areas.

Chemical dosing
MAG 1100 for optimising the treatment process.

Electrode Cleaning
Automatic self-cleaning of extreme deposits on the sensor electrodes.

MAG 6000 I (Ex d)

MAG 1100 with pipe threads

MAG 6000 electrode cleaning

Chemical Industry
The power of protection

Siemens offers the market's most versatile flowmeter program dedicated to work in the harshest environments.

Every component Siemens makes combines the highest levels of safety, quality and reliability with a low cost of ownership.

Highest level of safety and quality
Siemens offers a full range of ATEX and FM / CSA approved flowmeters for remote or compact installations.

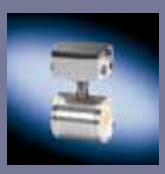
- Intrinsically safe rated input and outputs
- Compliance with NAMUR NE 21
- Multi-informational, multi-lingual display
- Actual flow & totalizers: forward, reverse & net totals
- Sophisticated self diagnostics
- Error log & error-pending indication

Touchpad
This innovative capacitive touch-sensitive keypad has an LED light indication for positive feedback, ensuring safe and easy operation in hazardous areas without having to open the enclosure.

The MAG 1100 ceramic liner is resistant to virtually all media and combined with the platinum electrodes no application is too tough.

MAG 6000 I (Ex d)

MAG 5000/6000



MAG 1100

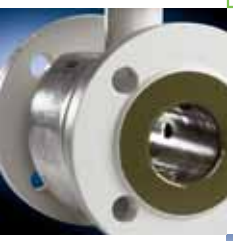
MAG 1100 with pipe threads

Proven to meet the harsh demands in the chemical industry

Siemens flowmeters have a robust design that meets the demanding applications that flowmeters in the process industry require. They are chemically resistant, fully operational in hazardous environments, and able to perform a number of difficult measurement tasks.

In addition, Siemens offers the in-situ verification for documenting continuous accuracy for crucial process applications, important where verification is required to meet ISO 9001, ISO 14001 or other quality control management programs.

"Plug & Play"



NOVOLAK

SENSORPROM

Communication
With the USM II, Siemens brings flexibility and "future-proof" design one step further with fieldbus modules like Profibus PA/DP, HART and Modbus RTU.

Lifetime corrosive resistance
The often harsh environment in the chemical industry require the use of a wide range of corrosive resistant materials. Siemens offers liner, electrode and housing materials that withstand such extreme process media.

Well fitted liner materials:
PTFE,PFA, Ceramic, NOVOLAK.

Electrode materials:
AISI 316 Ti, Hastelloy C, Titanium, Tantalum, Platin.

NOVOLAK. The revolution in liner materials
Only Siemens offers NOVOLAK, a revolutionary liner material with a smooth, hard and non porous finish that provides the highest level of protection against corrosion, abrasion, high pressure & temperatures, and vacuum conditions. It has the chemical resistance you'd expect from PTFE, with the mechanical strength and stability of steel.

SENSORPROM
It not only stores calibration data but also the programming and setup data entered during commissioning. Ensures fast, easy and reliable servicing.

Pharmaceutical Industry
For accuracy, sterility and complete confidence

With cost-effective solutions that meet the high standards of accuracy and hygienic design, Siemens provides flow solutions to customers in the pharmaceutical industry which reduce the cost of high purity flow measurements.

MAG1100 F/MAG1100
MAG 1100 F and MAG 1100 are ideally suited for pharmaceutical applications. Its obstruction-free performance minimizes the risk of deposits, and it is unaffected by the suspended solids, viscosity, and temperatures typically found in pharmaceutical processes.

Additional benefits include:
- Suitable for CIP and SIP cleaning
- High pressure, hose down cleaning flexibility
- High levels of chemical resistance
- Resistance to high temperatures and temperature shock
- Sanitary connections or AISI 316 flangeless wafer design
- High confidence validation and accuracy in batch processing applications
- Custody transfer approvals available
- Meets 3A sanitary and EHEDG requirements

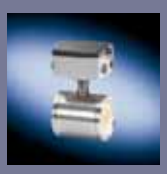
Hazardous areas
For installations in hazardous areas the flowmeters are available with FM/CSA and ATEX approvals in remote or compact design. Still the full functionality is given by the touch keypad and multi lingual display.

MAG 1100 Food

PFA reinforced with stainless steel mask has excellent mechanical stability characteristics to ensure long term stability.

MAG 6000 I (Ex d)

MAG 5000/6000 wallmount



MAG 1100

MAG 1100 with pipe threads

Food and Beverage
A higher standard of precision and purity

Siemens provides flow solutions for the food and beverage industry to efficiently manage flow processes, giving them a competitive edge.

Our flowmeters are designed to meet the challenges in the tough environment of the food and beverage industry where extreme temperature changes, humidity, condensation, hose-down and CIP cleaning are ever present.

The sanitary solution
MAG 1100 F is specially designed for the food and beverage industry. It was the first to pass the EHEDG hygienic test and meets all sanitary standards.

MAG 1100 F's obstructionless performance is unaffected by the suspended solids, viscosity, and temperature challenges typically found in food and beverage processes.

Your guarantee for hygienic food safety
- AISI 316 stainless steel enclosure
- Hygienic seal, EHEDG and 3A approvals
- Suitable for CIP and SIP cleaning
- IP67 / NEMA 4X rating that is upgradeable to IP68 / NEMA 6P
- Delivered with your specified connection; with metal-to-metal design, no grounding connection is required.
- Direct access to covered keypad and display
- Accredited custody transfer approvals OIML R 115

Process connections
With the unique and flexible adaptor concept, one flowmeter fits nearly every process connection.
Adaptors are offered for clamp connection, threaded connection or weld in type connection for direct welding into the process piping.

EHEDG

The confidence of In-situ verification
Unique verification concept based on years of know-how is ideal for quality control management.
- In-situ verification requires no interruption of flow or opening of pipes
- Full installation test of transmitter, sensor and cabling
- A fully automated verification test in less than 15 minutes

TRANSMAG 2:
Designed for all heavy-duty applications

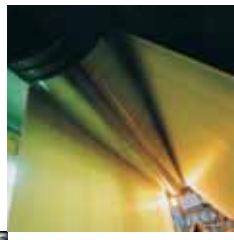
TRANSMAG 2 AC Flowmeter. A Siemens Exclusive.

Thanks to its pulsed alternating field system, the TRANSMAG 2 is capable of measuring where conventional DC field technology can not, like in applications involving:

- High concentrated pulp stock
- Heavy mining slurries
- Mining slurries with magnetic particals

The alternating field technology generates a much stronger magnetic field within the sensor compared to DC technology. This is why it measures more reliably and with greater precision – even when the media has a high concentration of solids.

Thanks to its patented signal integration, the TRANSMAG 2 provides only the real flow measurement by removing unwanted electrode noise from the sensor's signal. With the pulsed AC technology, it's possible to have a stable zero-point, thereby a reliable and accurate measurement.



Benefits for heavy-duty solutions

- Eliminates problems related to zero-point stability
- No movable parts that can wear or degrade measurement accuracy
- Electrode noise-resistant
- Noise-resistant
- Heavy-duty industrial enclosure
- A wide choice of corrosion-resistant liner materials

Pulsed AC technology

The pulsed AC TRANSMAG 2 flowmeter generates a strong magnetic field, a high excitation frequency and a stable zero point. Providing an accurate, repeatable, fast responding and stable flow signal.

Transmitter	TRANSMAG 2
Measuring principle	Pulsed alternating field AC
Enclosure	IP67 / NEMA 4X
Max measuring Error	0,50 % of rate
Display	2 line alpha numeric LCD with back light
Inputs & outputs	1 current, 1 digital, 1 relay (or 1 digital input) output
Communication	HART, Profibus PA
Power Supply	100 – 230 V AC

Pulp & Paper and Mineral Industries
Heavy duty solutions for tough applications

Pulp & Paper Industry

Siemens MAGFLO and TRANSMAG 2 flowmeters offer exceptional value for pulp & paper applications. They are well-suited for any flow applications even with high solids content and are ready to take on your toughest applications – no matter how challenging they may be!

Pulp
The high energy magnetic field generated with pulsed AC technology provides a powerful signal ideal for measuring high concentrations of paper stock, i.e., greater than 3 %.

Mining Industry

Rugged in design and unaffected by electrode noise, disturbances or vibration, Siemens MAGFLO flowmeters for the mineral industry can be easily installed virtually anywhere.

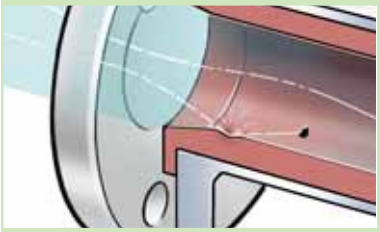
All models produce accurate and repeatable results, contributing to improved quality-based performance.

Slurries
The high energy magnetic field generated with pulsed AC technology provides a powerful signal ideal for measuring high concentrations of slurries.

Magnetic particles – no problem
Magnetic particles in the media will boost the magnetic field in the flowmeter and course a misreading. To overcome this, the TRANSMAG 2 is designed with a second compensating coil circuit.

Maximum protection
There's a solution for every abrasive media application, but the choice of material is crucial to protect the flowmeter. Besides inlet protection rings, Siemens offers a wide range of liner and electrode materials. Especially the soft LINATEX rubber and the NOVOLAK liner have proven themselves in these harsh environments.

Compensation coil
The TRANSMAG 2 offers besides a very strong magnetic field a second coil circuit to compensate for fluctuations in the magnetic field, caused by fluctuations in the main power supply or magnetic particles in the media.

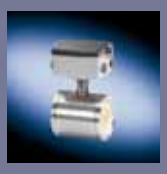


LINATEX Protection
Minerals or particles will bounce off the soft rubber liner, instead of wearing it down.

TRANSMAG 2

MAG 6000 I – MAG 3100

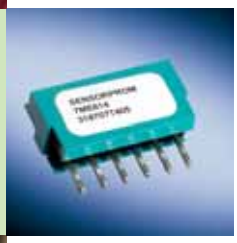
MAG 5000/6000



MAG 1100

MAG 5100 W

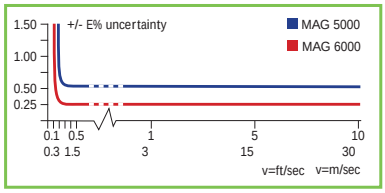
Continuous Accuracy.
Verifiable Confidence.



Calibration

To ensure accurate flow measurement, a flowmeter must be validated through calibration. Every Siemens flowmeter is calibrated at facilities that are individually accredited in accordance with ISO/IEC 17025 by UKAS, DANAK and traceable to NIST. A calibration certificate is shipped with every Siemens sensor.
Siemens Calibration facilities comply with ISO 9001.

- High accuracy rigs with better than 0.1% calibration uncertainty
- UKAS accredited calibration laboratory #0301
- Documentation for ISO 9000 and ISO 14001 management system



Meter performance

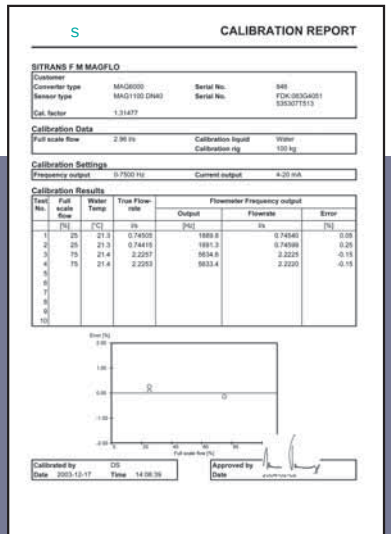
Thanks to their reliable performance, electromagnetic flowmeters are those recommended most for measurement of conductive liquids. Siemens flowmeters, among the best in the world, comply with standards such as custody transfer approvals for billing purpose. They deliver;

- Accuracy better than 0.25% / 0.5% down to 0.5 m/s / 1.5 ft/s
- PTB type approvals (cold water), OMIL R75 and OIML R117
- With MI 001 OIML R49; ISO 4064

MAGFLO SENSORPROM

During the calibration process, measurement parameters and "Fingerprint" data, as well as other important data are stored in the SENSORPROM memory:

- Sensor information and identification
- Calibration parameters
- Fingerprint parameters
- Default flowmeter settings



In-situ MAGFLO verification – three simple steps

Through in-depth analysis, Siemens has identified the parameters which influence the accuracy of a flowmeter operating in the real world.

These parameters are checked using a unique, patented verification technique for MAGFLO Mag 5000 and 6000 flowmeters. Testing at WRc proved the accuracy of the verification result for a complete flowmeter.

❶ Transmitter Test

The transmitter test is a flow simulation test that checks the whole electronic system from signal input to output. Using the magnetic field energy, the Verificator simulates a flow signal to the transmitter input.

By measuring the transmitter output, the Verificator calculates its accuracy against factory defined values.

❷ Flowmeter Insulation Test

The verification test of the flowmeter insulation is a "cross-talk" test of the entire flowmeter. It ensures that the sensor flow signal is unaffected by external influences.

In this test, the Verificator generates a high voltage disturbance within the coil circuit and then looks for any "cross-talk" induced in the flow signal circuit. By generating dynamic disturbances close to the flow signal the flowmeter is tested for noise immunity to a maximum level.

❸ Sensor Magnetism Test

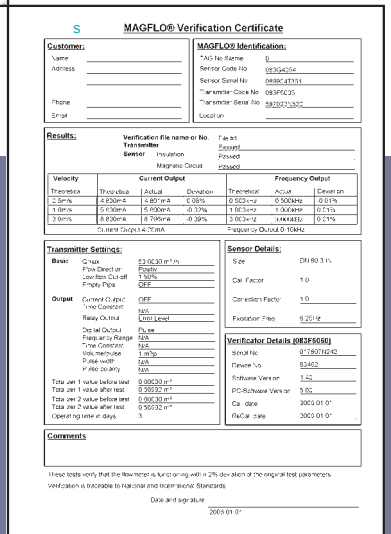
The verification of the sensor magnetism is a "boost" test of the magnetic field coil. It ensures that the magnetism behaviour compares to its original behavior by comparing the current sensor magnetism with the "fingerprint" determined during initial calibration and stored in the SENSORPROM.

In the "Boost" test the Verificator changes the magnetic field pattern and uses high voltage to get quick stable magnetic condition.

Certificate

An authorized, signed certificate documents the verification and includes:

- Test result with pass or failed approval
- Installation specification
- Flowmeter specification and configuration
- Verificator specification with date of calibration ensuring traceability to national and international standards


MAGFLO® Verification Certificate

Customer:
Name
Address
Phone
Email

MAGFLO® Identification:
TAG No./Name
Sensor Code No
Sensor Serial No
Transmitter Code No
Transmitter Serial No
Location

Results:
Verification file name or No.
Transmitter
Sensor
Insulation
Magnetic Circuit
File #1
Passed
Passed
passed

Velocity	Current Output			Frequency Output		
Theoretical	Theoretical	Actual	Deviation	Theoretical	Actual	Deviation
1.0m/s	4.800mA	4.807mA	0.08%	0.500kHz	0.500kHz	0.01%
1.0m/s	5.200mA	5.190mA	-0.37%	1.083kHz	1.000kHz	0.11%
3.0m/s	8.800mA	8.799mA	-0.38%	3.083kHz	3.083kHz	0.11%

Current Output 4-20mA
Frequency Output 0-10kHz

Transmitter Settings:
Basic: Qmax, Flow Direction, Low flow Cut-off, Empty Pipe
Output: Current Output, Time Constant, Relay Output, Digital Output, Frequency Range, Time Constant, Volt. per pulse, Pulse width, Pulse polarity
Total zero 1 value before test
Total zero 1 value after test
Total zero 2 value before test
Total zero 2 value after test
Operating time in days

Sensor Details:
Size
Cal. Factor
Correction Factor
Excitation Freq.

Verificator Details (6ES5 ...)
Serial No.
Device No.
Software Version
PC-Software Version
Cal. date
ReCal. date

Comments

These tests verify that the flowmeter is functioning within a 2% deviation of the original test parameters.
Verification is traceable to National and International Standards.

Date and signature

Flow Simulation Test

"Cross-Talk" Test

"Boost" Test

WRc*

What independent testing by WRc says:
''The MAGFLO Verificator correctly detected all set-up faults in the complete flowmeter...is **straightforward** to use.....is **sturdy and suitable** for field use"

WRc, Water Research Centre is a leading, independent research, technology and consultancy company with a reputation for scientific and technical excellence. WRc has over 15 years of experience in instrument testing and evaluation. WRc's full report, UC3600 March 2000, is available for inspection.

BrandFocus A/S (5709) · Als Offset ApS

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For additional information, visit:
www.siemens.com/flow

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