SENSORS FOR FOOD AND BIOPHARMA

HYGIENIC BY DESIGN

ANDERSON-NEGELE

Reliable Flow Control

with flow meters and flow switches for all applications

EXPERIENCE THE DIFFERENCE

IZMAG
Flow Meter

HM-E
Flow Meter

FTS
Flow Switch

FMQ
Flow Meter

SENSORS FOR FOOD AND LIFE SCIENCE.

SANITARY BY DESIGN
ANDERSON-NEGELE

The benchmark for accuracy, reliability and longevity

Continuously precise flow control with IZMAG / FMQ

The IZMAG Electromagnetic Flow Meter is an extremely versatile, robust, and reliable device for all conductive media like milk, cream, beer, tomato paste, sauces, molasses, yogurt, slurries, concentrates, and cleaning solutions.

The performance spectrum is tailored to excel in the most demanding sanitary processing environments, including dosing and filling:

- **Extremely robust:** All components are made entirely of stainless steel. The magnetic field coils of the measuring system are fully encapsulated, which guarantees reliable, precise measuring results even in very harsh environments with strong vibrations or pressure shocks
- **Extremely reliable:** Fully protected against moisture, corrosion, and vibrations; vacuum-capable measuring tube lining made of high-quality PFA, suitable for CIP cleaning and pigging.
- **Always accurate:** Advanced signal processing ensures that the measurement is always accurate even with a change in liquid (e.g., milk/CIP cleaner)
- **Simple commissioning and operation:** User-friendly, rotatable backlit display with optical buttons for quick and easy programming, no opening of the cap required, no mechanical buttons
- **Extremely versatile electronics:** many configurations make individual settings possible. Available options include remote electronics and Ethernet IP communication

Technical Specifications at a glance

- **Measuring range from 0.15 up to 1200 gal/min**
- **Measuring accuracy: ±0.20% / ±1mm/s**
- For liquids, mashes, pastes and cleaning solutions with a min. **conductivity of > 5 µS/cm**
- **Process temperature up to 212 °F (100°C) or up to 325 °F (163 °C) with remote electronics**
- **CIP / SIP cleaning up to 130 °C (266 °F) / 30** minutes with integral electronics

The compact alternative with IO-Link: FMQ

The electromagnetic flowmeter FMQ is the low-cost All-rounder with IO-Link communication:

- **Flex-Hybrid Technology:** Digital IO-Link or analog 4...20 mA or both in parallel
- **Compact design:** Minimal size of measuring body and electronics allow an easy and vibration-insensitive integration into almost all applications

Technical specifications FMQ are equal to IZMAG, but measuring accuracy ±0.5% / ±2mm/s.

For further details see product information or www.anderson-negele.com

Order Information IZMAG

IZMAG □□□ □ □ □ □ □ □ □ □ □□□□

FLOW TUBE SIZE
- 010 1/2"
- 015 3/4"
- 025 1"
- 032 1-1/2"
- 040 1-1/2"
- 050 2"
- 065 2-1/2"
- 080 3"
- 100 4"

DISPLAY
- D Display
- B Blind (display not visible)

OPERATING POWER
- 0 24 VDC
- 1 110 - 220 VAC

OUTPUT OPTIONS
- 0 2 pulse, 1 analog
- 1 2 pulse, 2 analog, Hart
- 2 2 pulse, 1 analog, Ethernet I/P [1]

CALIBRATION
- 0 Custom (Order Worksheet Required)
- 1 Factory (Calibrated to Max Flow Capacity)

COUNTRY DESTINATION
- 0 Standard
- C Canada

ELECTRICAL CONNECTIONS
- 0 Cord grips and NPT adapters
- 1 M12 Electrical Connections (DC only) (integral only)

ELECTRONICS MOUNTING
- 00 Integral Electronics
- R0 Remote w/ 25' cable
- R1 Remote w/ 50' cable
- R2 Remote w/ 75' cable
- R3 Remote w/ 100' cable

METER LENGTH[2]
- 0 Standard
- 1 13.25" replacement for IZM/S/L (not available for sizes 010 and 040)
- 2 9.88" replacement for PD 340 (not available for sizes 010, 015, and 040)
- 3 Replacement length for 8721 (not available for sizes 015, and 032)
- 4 Replacement length for 50-53 (not available for sizes 010, 015, 025, and 032)

ELASTOMER
- A Standard (EPDM)
- B Silicone
- V Viton

FITTING
- S Tri-Clamp®
- I Cherry-Burrell I-line (not available with size 010, 015 or 040, only available with length option 0)
- N 3/4" Tri-Clamp® connection on 015 size (only available with length option 0)

FMQ Magnetic-Inductive Flow Meter

Nominal diameter/size
- **010** 10 mm
- **015** 15 mm
- **025** 25 mm
- **032** 32 mm
- **040** 40 mm
- **050** 50 mm
- **065** 65 mm
- **080** 80 mm
- **100** 100 mm

Certificate
- **S** None

Display / Cap
- **L** Optical LED status display (not available with M12 connection options K or L)
- **B** Blind stainless steel cap
- **D** Graphic display

M12 Connection / Communication
- **0** M12 connector, 4-pin, plastic
- **K** M12 connector IO-Link, 4-pin, stainless steel
- **L** M12 connector IO-Link with switch input, 5-pin, stainless steel
- **S** M12 connector without switch input, 4-pin, stainless steel
- **M** M12 connector with switch input, 5-pin, stainless steel

Connection
- **0** Butt-weld
- **1** ASME clamp
- **2** DIN clamp

Elastomer
- **A** EPDM
- **B** Silicone

FMQ	010	S	L	0	0	A

The solution for non-conductive liquids and WFI

Flow meters for aqueous media HM & HMP

When nothing else works

The HM / HMP turbine flow meter with non-contact pulse measurements is the reliable, precise, and economical alternative for mass flowmeters or electromagnetic flowmeters.

HM / HMP is suitable for aqueous media like filtered fruit juice or beer, alcohols, light oils, salt solutions, cleaning media, and acids, but also process water, demineralized water, and WFI.

- **Compact and robust:** Massive turbine housing made of stainless steel - insensitive to thermal influences, space-saving, insensitive to vibration

- **Hygienic & 3A-compliant:** 2-piece housing, specifically designed for sanitary applications, eliminates the need for internal locking rings to retain internal components. This ensures easy cleaning and maintenance, and results in improved cleanability, straightforward design, and a lower risk of product contamination

- **Non-contact pulse measurement:** A signal probe generates an electromagnetic field that interacts with the rotating turbine rotor blades to produce a precisely measurable induction current

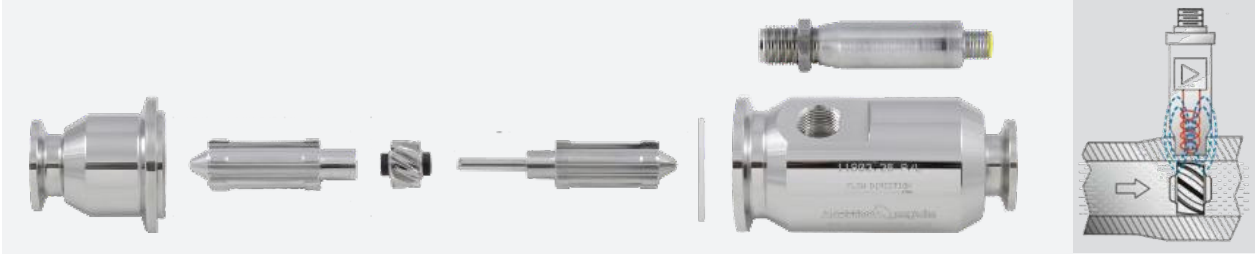
- **Durable:** The combination of Rulon 123™ sleeve bearing and 316L stainless steel shaft withstands even difficult process conditions, steam blowdowns and autoclaving

- **Fast:** The low mass moment of inertia of the turbine wheel ensures a fast response time of less than 50 ms. Even rapid flow rate changes can be detected without any problems

- **For Food and Life Science:** Two versions that are specifically adapted to the respective requirements of the food and pharmaceutical industries

Technical specification at a glance

- **Flow range from 26.5 LPM / 7 GPM** (1" T.C.) up to **946 LPM / 250 GPM** (2" T.C.)
- **Accuracy: ±0.5% of rate over specified range**
- Compact design with Tri-Clamp connection in pipes from DN25 (1") (DIN 11850 / ASME BPE)
- **Fluid temperature up to 120 °C (250 °F) for HM, up to 149 °C (300 °F) for HMP**
- **CIP / SIP** / Autoclave up to 149 °C (300 °F)
- **Long-life operation** through easy rotor replacement and recalibration
- For media with max. viscosity 100 cps and particle size < 20 µm



SENSORS FOR FOOD AND LIFE SCIENCE.

SANITARY BY DESIGN
ANDERSON-NEGELE

The solution for aqueous, non-conductive media: HM for Food applications

Order Information

H M ☐ ☐ ☐ S S ☐ ☐

SIZE
100 1" Turbine flowmeter
150 1 1/2" Turbine flowmeter
200 2" Turbine flowmeter

ROTOR OPTIONS
SS 316 stainless steel rotor

HOUSING OPTIONS
00 Standard housing
PT* 3/4" NPT threaded adapter for explosion proof applications

*Required for RTC, RTX, RIX & FIX options below

Replacement Parts

Part Number	Description	
HTS1000	3-wire pick-up probe	
HT75000	2-wire pick-up probe	
HSDT000	3-wire pick-up probe	
HM600-100SS	1" Rebuild kit	316 SS rotor
HM600-150SS	1.5" Rebuild kit	316 SS rotor
HM600-200SS	2" Rebuild kit	316 SS rotor

PROBE/DISPLAY OPTION H ☐ ☐ ☐ ☐ ☐ ☐

OUTPUT OPTIONS
TS1 3-wire signal probe
T75 2-wire signal probe
RTC Integral battery operated totalizer
RTW Remote battery operated totalizer (with 15' extension cable)
RTX Integral explosion proof battery operated rate totalizer
RIX Integral explosion proof battery operated rate/totalizer with 4-20mA output
FIX Integral explosion proof frequency to analog converter

CABLE

000	No	cable (for RTC, RTW and RTX options above)
025	25'	cable
050	50'	cable
075	75'	cable
100	100'	cable

Order Information

H M P ☐ ☐ ☐ ☐ ☐

SIZE
100 1" Turbine flowmeter
150 1-1/2" Turbine flowmeter
200 2" Turbine flowmeter

HOUSING OPTIONS
00 Standard housing
PT* 3/4" NPT threaded adapter for explosion proof applications

*Required for RTC, RTX, RIX & FIX options below

PROBE/DISPLAY OPTION H ☐ ☐ ☐ ☐ ☐ ☐

OUTPUT OPTIONS
TS1 3-wire signal probe non magnetic sensing
T75 2-wire signal probe
RTC Integral battery operated totalizer
RTW Remote battery operated totalizer (with 15' extension cable)
RTX Integral explosion proof battery operated rate/totalizer
RIX Integral explosion proof battery operated rate/totalizer with 4-20mA output
FIX Integral explosion proof frequency to analog converter

CABLE
000 No cable(for R and F options above)
025 25' cable
050 50' cable
075 75' cable
100 100' cable

REPLACEMENT PARTS

Part Number	Description	
HTS1000	3-wire pick-up probe	
HT75000	2-wire pick-up probe	
HMP600-100	1" Rebuild kit	316SS rotor
HMP600-150	1.5" Rebuild kit	316SS rotor
HMP600-200	2" Rebuild kit	316SS rotor

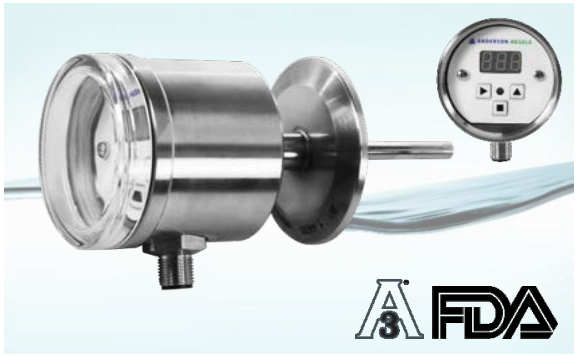
SPARE CABLES

Part Number	Description
Cable 3W-25	25' cable with connector
Cable 3W-50	50' cable with connector
Cable 3W-75	75' cable with connector
Cable 3W-100	100' cable with connector

The solution for all aqueous, even high-purity media

FTS - Reliable flow switch for all media

Flow switches are used in almost all processes to monitor the technical safety of the plant and the correct operation of the processes. A possible malfunction of a pump, a closed valve or a misdirected medium are reliably detected and reported.



Calorimetric flow control

The special FTS pulsed measurement method heats in short periods and detects the flow velocity quickly, reliably, and permanently just by measuring the temperature change of the medium.

- **Ideal for all aqueous products:** Even for demineralised and highly filtered media such as cola and other soft drinks, filtered beer, demineralised water, as well as for media in pressure lines
- **Process temperature up to 100 °C (212°F):** FTS is perfectly suited for all usual processes and media
- **Fast:** Due to the very slim sensor tip and the position of the heating element and Pt100 sensor directly at the fluid, the FTS has an extremely short response time for a calorimetric sensor
- **Insensitive to temperature shocks:** temperature changes due to e.g. cold product, hot water, CIP solutions have no influence on the measurement
- **Versatile:** Ideal for monitoring pump systems, valves, filters, agitators, cooling circuits, CIP return flow...

Technical data FTS at a glance

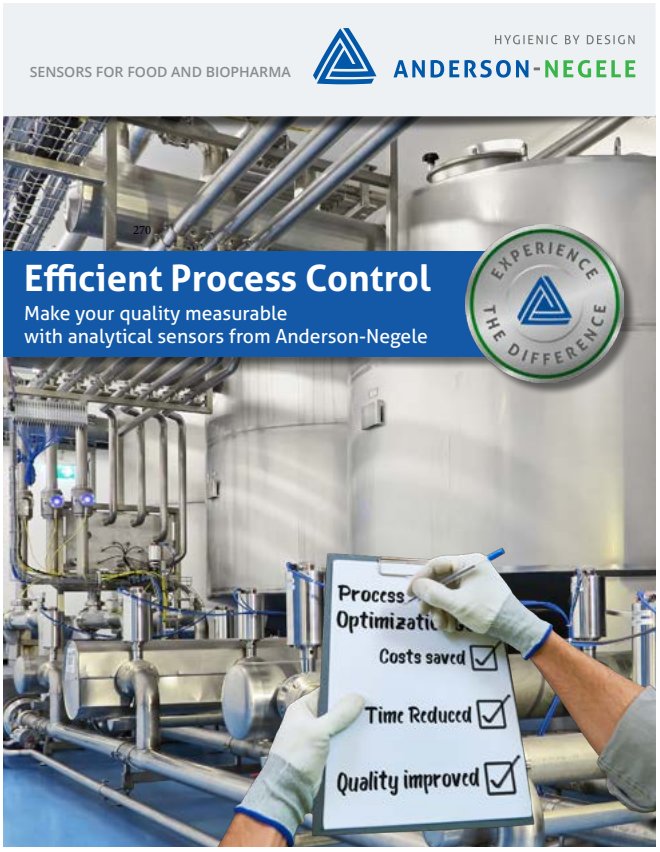
- **Calorimetric flow switch or all aqueous media** (water content ≥50%)
- **Measuring range 0,1...3 m/s**
- **Robust stainless-steel design**, protection class IP69K
- **Long-life Technology** for process temperatures up to 100 °C (212°F), with integrated safety switch-off
- **Switching output** adjustable in % of flow rate.
- **CIP / SIP** up to 140 °C (284°F) / max. 60 min

Order code CLEANadapt G1/2" process connection

FTS-141	Calorimetric Flow Sensor with switch output, CLEANadapt G1/2" process connection	
	Cap	
	X	(Plastic without window)
	P	(Plastic with control window)
	M	(Metal without control window)
	W	(Metal with control window)
FTS-141 -	**X**	

Discover our other high-performance sensor ranges:

Analytical Sensors:



IO-Link Sensors:

PDF download available on
www.anderson-negele.com

SENSORS FOR FOOD AND LIFE SCIENCES.

SANITARY BY DESIGN
ANDERSON-NEGELE

SANITARY BY DESIGN

ANDERSON-NEGELE

North America
Anderson Instrument Company Inc.
Fultonville, NY 12072
USA

Phone +1 518-922-5315
Fax +1 518-922-8997
info@anderson-negele.com

Europe / EMEA
Negele Messtechnik GmbH
Raiffeisenweg 7, 87743 Egg an der Günz
GERMANY

Phone +49 8333-9204-0
Fax +49 8333-9204-49
sales@anderson-negele.com

India
Anderson-Negele India
Kurla (West), Mumbai-400 070
INDIA

info.india@anderson-negele.com

China
Anderson-Negele China
518 Fuquan North Road, Shanghai, 200335
P. R. CHINA

Phone +86 400 666 1802-7
china.sales@anderson-negele.com

60038 / 2021-02-15 / 1.2 / MH / NA

ANDERSON-NEGELE.COM