

The art of measuring



## flow&levelindustrialinstrumentation















# FOR UNDERSTANDING THE WORLD WE NEED INSTRUMENTS TO MEASURE

#### MANUFACTURING CHRONOLOGY

1974 Borosilicate glass tube variable area flowmeters

1976 Magnetic coupling flowmeters

Metal tube variable area flowmeters
Target disk flowmeters

1978 Oscillating piston flowmeters

Turbine flowmeters

1979 Level indicators and switches activated by magnetic coupling

1980 By-pass flowmeters (orifice plate)

1984 Electronic converters

1987 Flow switches

1990 Electromagnetic flowmeters

1992 Plastic tube variable area flowmeters

1997 Vibrating fork level switches

**2001** ATEX and Lloyd's Type Approval Certifications

2003 HART® communication protocol

2006 Ultrasonic level transmitters

2010 Guided radar level transmitters

2011 Ultrasonic flowmeters

2015 New line of electronic converters

TR CU Certificate of conformity

2018 IECEx Certification

TECFLUID S.A. have been designing and manufacturing flowmeters and level instrumentation products for more than 45 years. Our flow and level products can be found in a very wide and diverse range of process and manufacturing applications, and in some of the biggest companies in the world.

Our company started in January 1974 with the intention of meeting the growing demand of various industry sectors within Spain for flow metering and level measurement products that had previously only been available on an ex-import basis from other manufacturers. This demand gave us just the incentive we needed to establish Tecfluid.

The rapid growth of industries over the last years has enabled Tecfluid to introduce new product lines, and to enhance old ones, to meet the growing needs of our customers and to further expand our aspirations in the export market.

During our journey we have learned a lot thanks to the input from our customers and we have consistently invested in resources, both human and technical, to improve our products and manufacturing processes, and to remain technically relevant and competitive in today's world. This is why Tecfluid products are comparable to those produced by the most prestigious international companies.

Our strength lies in the constant innovation and customized manufacturing to suit the needs of each client. This has enabled us to adopt a progressive national and international expansion of our business, to the point where we currently have a presence in over 50 countries all over the world, operating through qualified local distributors having a unique knowledge of their individual markets and customers.

Our design and manufacturing processes were awarded with ISO9001 QAS certification in 1996, and further enhanced with ATEX, IECEx and Lloyd's Type Approval certifications that encompasses the entire design process, production, quality control and after sales service. In addition we have incorporated the HART® communication protocol in our transmitters and all our products meet the European Pressure Equipment Directive (PED). Likewise, following with our tendency towards international expansion, the TR CU Certification of conformity (EAC marking) is available since 2015.

TECFLUID S.A. are at your service, offering a wide range of well engineered and quality products and service that have gained the company a wide acceptance all over the world with our many national and international clients.

We appreciate the confidence and trust that our customers have placed in our products over the years, and assure them of our continued efforts to preserve that trust in the future.

#### Jordi Picazo

President of the Board and Founder

## Series PS Plastic tube variable area flowmeters

# Series 2000 Glass tube variable area flowmeters for low flows

## Series 6000 Glass tube variable area flowmeters





1/2" ... 3"

4 l/h ... 50 m³/h 200 Nl/h ... 1500 Nm³/h 4% ... 6% (*q*<sub>G</sub>=50%)

Flow tube: Polysulfone (PSU) or NAS®

Connections: PVC, PP, painted steel,
EN 1.4404 (AISI 316L)



1/4" ... 3/4"

0.1 l/h ... 1000 l/h 0.5 Nl/h ... 30 Nm³/h

1.6% ... 3.5% (q<sub>G</sub>=50%)

Flow tube: borosilicate glass Connections: EN 1.4404 (AISI 316L)





1/2" ... 3"

2.5 l/h ... 50 m³/h 40 Nl/h ... 1500 Nm³/h

1.6% (q<sub>G</sub>=50%)

Flow tube: borosilicate glass

Connections: painted steel, EN 1.4404 (AISI 316L), PVC, PP, PTFE, PVDF

Features Accessories Options

Sizes

Flow range H<sub>2</sub>O

Flow range AIR

Accuracy

Materials

1 or 2 switches

4-20 mA output (max. resolution 18 points)

Ex version and HART®, Profibus, Fieldbus or MODBUS RTU RS485 protocols on request

1 or 2 switches

Regulating valve

Constant flow regulator

**Series PR** 

Orifice plate flowmeters

1 or 2 switches

4-20 mA output (max. resolution 18 points)

Ex version and HART®, Profibus, Fieldbus or MODBUS RTU RS485 protocols on request



# Series 60M1 Glass tube variable area flowmeters for low flows



1/<sub>4</sub>" or 1/<sub>2</sub>"

0.1 l/h ... 100 l/h

1/1- 1001/

0.5 NI/h ... 3600 NI/h

3% (q<sub>G</sub>=50%)

Flow tube: borosilicate glass

Connections: EN 1.4404 (AISI 316L)

DN50 ... DN1000

2 m³/h ... 20000 m³/h

30 Nm<sup>3</sup>/h ... 300000 Nm<sup>3</sup>/h

±4% f.s.

Plastic coated steel, PVC, PP,

EN 1.4404 (AISI 316L)

Series AD / VH
Flow switches and indicators





AD: 1/4" ... 21/2" / VH: DN32 ... DN500

AD: 15 l/h ... 16000 l/h
AD: 300 Nl/h ... 130 Nm³/h

AD. 300 N/II ... 130 NIII9/I

AD: ±5% f.s.

AD: brass, EN 1.4404 (AISI 316L), aluminium

VH: EN 1.4404 (AISI 316L), PTFE

Sizes

Flow range H<sub>2</sub>O

Flow range AIR

Accuracy

Materials

Features Accessories Options 1 or 2 switches

4-20 mA output

Ex version and HART®, Profibus, Fieldbus or MODBUS RTU RS485 protocols on request depending on the transmitter model

VH: insertion switch (1"). Non-adjustable switching position

AD: up to 4 switches depending on model.

4-20 mA output for models ADI

Ex version and HART® or MODBUS RTU RS485 protocols on request

## Series M21 Metal tube variable area flowmeters for low flows

## Series SC250 Metal tube variable area flowmeters

## Series DP Target disk flowmeters





Sizes

Flow range H<sub>2</sub>O

Flow range AIR

Accuracy

Materials

Sizes

Flow range H<sub>2</sub>O

Flow range AIR

Accuracy

Materials

Features

Options

Accessories



1/<sub>4</sub>" ... 3/<sub>4</sub>" 0.4 l/h ... 1000 l/h 12 Nl/h ... 30 Nm³/h

4% (q<sub>G</sub>=50%)

EN 1.4404 (AISI 316L), Titanium, Hastelloy C

1 or 2 switches

4-20 mA output

Features Ex version and HART® or MODBUS RTU

Accessories RS485 protocols on request

Options Regulating valve

Constant flow regulator

AISI 316L housing optional

DN15 ... DN150

2.5 l/h ... 180 m³/h 70 Nl/h ... 5500 Nm³/h

2.5% (q<sub>G</sub>=50%)

EN 1.4404 (AISI 316L), PVC, PP, PTFE, Titanium, Hastelloy C

1 or 2 switches

4-20 mA and digital outputs, totalizer

Ex version and HART® or MODBUS RTU RS485 protocols on request

Programmable by means of PC & USB cable

AISI 316L or PP housing optional Accuracy 1.6% ( $q_G$ =50%)



DN40 ... DN500

0.8 m<sup>3</sup>/h ... 1600 m<sup>3</sup>/h

45 Nm<sup>3</sup>/h ... 24000 Nm<sup>3</sup>/h

DP65: ±2.5% f.s./DP500: ±4% f.s.

Painted steel, EN 1.4404 (AISI 316L), Hastelloy C

1 or 2 switches

4-20 mA and digital outputs, totalizer

Ex version and HART® or MODBUS RTU RS485 protocols on request

Programmable by means of PC & USB cable

AISI 316L or PP housing optional

Accuracy DP65 ±1.6% f.s.

## Series CU Ultrasonic flowmeters



DN80 ... DN2000

3.6 m<sup>3</sup>/h ... 135700 m<sup>3</sup>/h

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±1.5% measured value ±0.02 m/s

Transducers: PET + Epoxy

Electronic converter: ABS

Transducers quide: anodized aluminium

Non-invasive flowmeter

Flow indication, totalizer

4-20 mA output

2 alarm outputs

Programmable by means of PC & USB cable

## Series FLOMID Electromagnetic flowmeters



DN3 ... DN600

5 l/h ... 10100 m3/h

-

±0.5% measured value

Lining: PP, PVDF, Ebonite, PTFE Electrodes: Hastelloy C, EN 1.4404 (AISI 316L), Titanium, Tantalum

Flow indication, totalizer

4-20 mA and pulse outputs

2 alarm outputs

HART® or MODBUS RTU RS485 protocols on request

Programmable by means of PC & USB cable

## Series FLOMAT Insertion electromagnetic flowmeters



DN40 ... DN2000

900 l/h ... 113000 m³/h

±3.5% measured value

Sensor: EN 1.4404 (AISI 316L), PVDF

Head: PVDF

Electrodes: EN 1.4404 (AISI 316L). Others

on request

Flow indication, totalizer

4-20 mA and pulse outputs

2 alarm outputs

HART® or MODBUS RTU RS485 protocols

on request

Programmable by means of PC & USB cable

FLOMAT-TAP for maintenance purposes without flow interruptions







#### **Series TM Turbine flowmeters**



#### **Series COVOL** Oscillating piston flowmeters









Flow range H<sub>2</sub>O

Flow range AIR

Accuracy

Sizes

Materials

Features Accessories Options

DN15 ... DN150

400 l/h ... 650 m<sup>3</sup>/h

±0.5% measured value Body: EN 1.4404 (AISI 316L)

Propeller: EN 1.4460 (AISI 329), EN 1.4016 (AISI 430)

Shaft / bearing: tungstene carbide / graphite

Pick-up coil output

Displays and converters: CIP, CP, MT03 and DFD420

HART® or MODBUS RTU RS485 protocols on request

Ex d IIC T6 version on request

DN10 ... DN100

25 l/h ... 60 m<sup>3</sup>/h

±0.8% measured value

Body: EN 1.4404 (AISI 316L), PVC, PP,

Piston: PTFE-graphite, PVDF, bronze,

aluminium

Viscosity up to 120000 mPa·s

Reed switch output

Displays and converters: CIP, CP, MT03 and DFD420

HART® or MODBUS RTU RS485 protocols on request

Ex d IIC T6 version on request

Associated to series COVOL, TM and others

Series CIP / CP / MT03 / DFD420

**Displays and converters** 

Depending on associated converter

CIPII: non-resettable totalizer and resettable partial counter

CP420: flow indication, totalizer, 4-20 mA output. HART® protocol for models CH420

MT03: flow indication, totalizer, 4-20 mA and pulse outputs and 2 x relay outputs. MODBUS RTU RS485 protocol on request

DFD420: pulse divider with opto-isolated and 4-20 mA outputs

#### **Series LT**

Level indicators, transmitters and switches





Accuracy

Materials

Features Accessories Options

**PVDF** 

0.15 ... 15 m

±10 mm

EN 1.4404 (AISI 316L), PVC, PP, PTFE,

Side mounted Adjustable switches. Ex d IIC T6 version optional

4-20 mA output (plastic housing, aluminium optional)

Ex version and HART®, Profibus, Fieldbus or MODBUS RTU RS485 protocols on request

**Series LS** Level indicators, transmitters and switches



0.15 ... 15 m

+10 mm

EN 1.4404 (AISI 316L). Others on request

Top mounted

Adjustable switches

4-20 mA output (plastic housing, aluminium

optional)

Level indicators, transmitters and switches

**Series LP** 



0.3 ... 6 m

±5 mm mesured value

Body: EN 1.4404 (AISI 316L), Hastelloy C, Titanium

Float: EN 1.4404 (AISI 316L), PVC, PP, PVDF, Hastelloy C, Titanium

Side or top mounted

1 or 2 switches

4-20 mA output

Ex version and HART® or MODBUS RTU RS485 protocols on request

Programmable by means of PC & USB cable AISI 316L or PP housing optional

Ex version and HART®, Profibus, Fieldbus or MODBUS RTU RS485 protocols on request



**Series LTDR Guided radar TDR level transmitters** 



**Series LU Ultrasonic level transmitters** 





Single rod probe: 100 ... 3000 mm Coaxial probe: 100 ... 6000 mm Rope probe: 1 ... 20 m

Liquids: up to 12 m Solids: up to 7 m

Detection length: up to 2 m

Accuracy

Measuring range

+3 mm

±2 mm (between 0.35 ... 2 m)

Hysteresis ±2 mm (with H<sub>2</sub>O)

Materials

EN 1.4404 (AISI 316L)

Body: PP, PVDF

EN 1.4404 (AISI 316L)

PTFE coating on request

Transducer: PVDF Housing: polycarbonate, aluminium HALAR® coating on request

Features Accessories Options

Top or side mounted Suitable for liquids and solids 4-20 mA output. 1 alarm output Ex version and extended temperatura range version on request

Top mounted

Suitable for liquids and solids

Level indication (display optional)

4-20 mA output, 2 alarm outputs

HART® or MODBUS RTU RS485 protocols on request

Programmable by means of PC & USB cable

Series LC40

Float level switches

Side or top mounted

Suitable for liquids (model LD61) and for solids (model LD60)

NAMUR Exi version and relay output on request

#### Series LC / LE Float level switches and transmitters

MODBUS RTU RS485 protocol on request







Measuring range 0.3 ... 6 m

Switching differential: 52 ... 1100 mm

Up to 15 m

Accuracy

Materials

Body and float: EN 1.4404 (AISI 316L),

±10 mm

Housing: polycarbonate, aluminium

PVC, PP, PTFE, PVDF

**Series NPC Level indicators** 



PVC, PP, PTFE, PVDF

Body and float: EN 1.4404 (AISI 316L),

Housing: aluminium, PVC, AISI 316L

±10 mm

Pulleys and counterweight (external indicator): PVC

Float: PP, PVC, PVDF, EN 1.4404 (AISI 316L)

Features Accessories Options

Top mounted. Side mounted with special design

LC: 1 ... 6 switches depending on model. Ex version

LE: 4-20 mA output, Ex version and HART®, Profibus, Fieldbus or MODBUS RTU RS485 protocols on request

Side or top mounted

Alarm switches: micro-switch (AMM), reed (AMR), pneumatic (AMP), inductive (AMD)

Ex d IIC T6 version on request

Adjustable switches

4-20 mA output (plastic housing, aluminium optional)

Ex version and HART®, Profibus, Fieldbus or MODBUS RTU RS485 protocols on request





Main offices and production facilities
Sant Just Desvern (Barcelona)

#### **DISTRIBUTORS**

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