Ultraflux
Ultrasonic Flowmeters

FAURE HERMAN

General catalogue

Discover Ultraflux

Under its Ultraflux brand, created in 1974, FAURE HERMAN is a pioneer in ultrasonic flowmetering. The company designs and manufactures its own products based exclusively on the measurement of ultrasound transit times.
This measurement principle allows a continuous, accurate and bi-directional flow measurement.

The Ultraflux product line is dedicated to non-transactional process measurements. It is composed of portable or fixed devices: flowmeters for pipes under load (liquids and gases), flowmeters for free surface flows, interface, sphere or scraper detectors and level measurement systems for underground storage.

FAURE HERMAN sells its Ultraflux brand products worldwide through its own subsidiaries and a network of experienced distributors.

Quality, Environmental and Safety Certification

MASE Certification

CERTIFICAT SYSTÈME COMMUN
MASE/FRANCE CHIMIE

N° N 2021-44

Le Comité de Pilotage MASE Île-de-France - Normandie - Centre certifie le système de management Sécurité Santé Environnement de la société

FAURE HERMAN

Pour les activités suivantes :
Conception, Fabrication, Commercialisation et Services Systèmes de Mesures à Ultrasons

Située à :
Bâtiment Texas - 9 Allée Rosa Luxemburg - Parc d'Activités des Bellevues - 95610 ERAGNY SUR OISE

Certification valable à compter du 01/07/2021 jusqu'au 30/06/2022

Le Président

Le Responsable de l'Entreprise

La liste officielle des « Entreprises Certifiées» figure sur le site : www.mase-asso.fr

FRANCE CHIMIE

MASE
AMÉLIORER LA PERFORMANCE SSE

ISO 9001- 2015 Certification

BUREAU VERITAS
Certification

FAURE-HERMAN

Agissant sous le nom commercial ULTRAFLUX

PARC D'ACTIVITE DES BELLEVUES
9 RUE ROSA LUXEMBOURG
95610 ERAGNY
FRANCE

Bureau Veritas Certification France certifie que le système de management de l'organisme susmentionné a été audité et jugé conforme aux exigences de la norme :

Standard

ISO 9001:2015

Domaine d'activité

CONCEPTION, FABRICATION, COMMERCIALISATION ET LOCATION DE SYSTEMES DE MESURES A ULTRASONS.

DESIGN, MANUFACTURING, SELLING AND RENTAL OF ULTRASONIC MEASUREMENT SYSTEMS.

ENTWICKLUNG, PRODUKTION, VERKAUF UND VERMIETUNG VON ULTRASCHALL MESSSYSTEMEN.

Date d'entrée en vigueur : **23 octobre 2020**

Sous réserve du fonctionnement continu et satisfaisant du système de management de l'organisme, ce certificat est valable jusqu'au : **06 décembre 2021**

Date originale de certification : **20 mai 1997**

Certificat n° : **FR048643-2**
Affaire n° : **7146676**

Date: **26 octobre 2020**

Laurent CROGUENNEC - Président

Adresse de l'organisme certificateur : Bureau Veritas Certification France
Le Triangle de l'Arche - 9 Cours du Triangle - 92937 Paris La Défense

Des informations supplémentaires concernant le périmètre de ce certificat ainsi que l'applicabilité des exigences du système de management peuvent être obtenues en consultant l'organisme.
Pour vérifier la validité de ce certificat, vous pouvez téléphoner au : **+ 33 (0)1 41 97 00 60**.

cofrac
CERTIFICATION DE SYSTEMES DE MANAGEMENT
ACCREDITATION N°4-0002
Liste des sites et portées disponibles sur www.cofrac.fr

BUREAU VERITAS

BUREAU VERITAS
Certification

FAURE-HERMAN

Agissant sous le nom commercial ULTRAFLUX

PARC D'ACTIVITE DES BELLEVUES
9 RUE ROSA LUXEMBOURG
95610 ERAGNY
FRANCE

Bureau Veritas Certification France certifie que le système de management de l'organisme susmentionné a été audité et jugé conforme aux exigences de la norme :

Standard

ISO 14001:2015

Domaine d'activité

CONCEPTION, FABRICATION, COMMERCIALISATION ET LOCATION DE SYSTEMES DE MESURES A ULTRASONS.

DESIGN, MANUFACTURING, SELLING AND RENTAL OF ULTRASONIC MEASUREMENT SYSTEMS.

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Date d'entrée en vigueur : **23 octobre 2020**

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Date originale de certification : **09 novembre 2009**

Certificat n° : **FR048644-2**
Affaire n° : **7146676**

Date: **26 octobre 2020**

Laurent CROGUENNEC - Président

Adresse de l'organisme certificateur : Bureau Veritas Certification France
Le Triangle de l'Arche - 9 Cours du Triangle - 92937 Paris La Défense

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BUREAU VERITAS

cofrac
CERTIFICATION DE SYSTEMES DE MANAGEMENT
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NOTIFICATION D'ASSURANCE QUALITE DE PRODUCTION

PRODUCTION QUALITY ASSURANCE NOTIFICATION

1 **Version : 04** — **LCIE 03 ATEX Q 8063** — **Issue : 04**

	Directive 2014/34/UE	**Directive 2014/34/EU**
2	Appareils ou Systèmes de Protection ou Composants listés dans l'annexe incluse à cette notification.	Equipment or Protective Systems or Components as listed in the schedule attached to this notification.
3	Fabricant :	Manufacturer :
	ULTRAFLUX	
4	Adresse :	Address :
	9, rue Rosa Luxemburg 95610 Eragny sur Oise FRANCE	
5	Lieu(x) de fabrication listé(s) dans l'annexe incluse à cette notification.	Manufacturing location(s) as listed in the schedule attached to this notification.
6	Le LCIE, Organisme Notifié sous la référence 0081 conformément à l'article 17 de la directive 2014/34/UE du Parlement européen et du Conseil du 26 février 2014, notifie au fabricant que le système qualité de production satisfait à l'Annexe IV de la directive. Ce système qualité conforme à l'Annexe IV de la Directive, satisfait de plus aux exigences de l'Annexe VII, Assurance Qualité du Produit, et de la norme ISO/CEI 80079-34 Ed. 2.0 (2018).	LCIE, Notified Body number 0081 in accordance with article 17 of the Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014 notifies to the manufacturer has that the production quality system complies with annex IV of the Directive. This quality system in compliance with Annex IV of the Directive also meets the requirements of Annex VII, Product Quality Assurance, and ISO/IEC 80079-34 Ed. 2.0 (2018).
7	Cette notification est fondée sur le(s) rapport(s) d'audit : 153821-716728 ; 153820-716725	This notification is based on audit report(s):
	Cette notification peut être retirée si le fabricant ne satisfait plus aux prescriptions de l'Annexe IV. Le maintien de cette notification est subordonné aux résultats des évaluations périodiques annuelles.	This notification can be withdrawn if the manufacturer no longer satisfies to the requirements of Annex IV. Results of periodical re-assessment of the quality system are a part of this notification.
8	Ce document est valable jusqu'au : 2021/06/29	This document is valid until :
	Cette notification peut être retirée si le fabricant ne satisfait pas à la surveillance de l'assurance qualité de production.	This notification can be withdrawn if the manufacturer does not satisfy the production quality assurance surveillance.
9	Conformément à l'article 16.3 de la directive 2014/34/UE le marquage CE doit être suivi numéro d'identification 0081 du LCIE identifiant l'organisme notifié qui intervient dans les phases de contrôle de la production.	According to Article 16.3 of the Directive 2014/34/EU the CE mark shall be followed by the LCIE identification Number 0081 identifying the notified body involved in the production control stage.

Fontenay-aux-Roses, le 22 juillet 2019

Responsable de Certification
Certification Officer
Julien Gauthier

LABORATOIRE CENTRAL DES INDUSTRIES ELECTRIQUES
S.A.S au capital de 15.745.984 €
RCS Nanterre B 408 363 174
33 avenue du Général Leclerc
F - 92266 FONTENAY AUX ROSES

LCIE
Laboratoire Central des Industries Electriques
Une société de Bureau Veritas

33 Avenue du Général Leclerc
92260 Fontenay-aux-Roses
FRANCE

WWW.LCIE.FR

NOTIFICATION D'ASSURANCE QUALITE DE PRODUCTION - ANNEXE

PRODUCTION QUALITY ASSURANCE NOTIFICATION - SCHEDULE

1 **Version : 04** **LCIE 03 ATEX Q 8063** **Issue : 04**

10 **LISTE DES ATTESTATIONS D'EXAMEN CE / UE DE TYPE COUVERTES** / **LIST OF EC / EU TYPE EXAMINATION CERTIFICATES COVERED**

Item	Produit *Product*	Mode de protection *Protection mode*	Attestation d'examen CE / UE de type *EC / EU type examination certificate*	Lieu(x) de fabrication *Manufacturing location(s)*
1	Sonde à ultrasons *Ultrasonic Probe*	ia	LCIE 03 ATEX 6180 X	A
2	Barrière SI *IS barrier*	[ia]	LCIE 03 ATEX 6181 X	A
3	Sonde à ultrasons *Ultrasonic Probe*	ma, e mb, d mb	LCIE 03 ATEX 6182 X	A
4	Coffret antidéflagrant *Flameproof enclosure*	d	LCIE 03 ATEX 6183	A
5	Coffret / *Enclosure* type 6017_uf841 et/*and* 6019_MINISONIC inox	d, tb	INERIS 13 ATEX 0054 X	A

11 **LIEU(X) DE FABRICATION** / **MANUFACTURING LOCATION(S)**

Item	Nom *Name*	Adresse *Address*
A	**ULTRAFLUX**	9, rue Rosa Luxemburg, 95610 Eragny sur Oise, FRANCE

12 **DETAILS DES MODIFICATIONS** / **DETAILS OF CHANGES**

Version 04 :	Surveillance. Suppression de l'attestation LCIE 11 ATEX 3053 X.	Issue 04 :	Surveillance. Removal of the certificate LCIE 11 ATEX 3053 X.
Version 03 : 2018/07/25	Renouvellement.	Issue 03 :	Renewal.
Version 02 : 2018/03/19	Surveillance.	Issue 02 :	Surveillance.
Version 01 : 2016/10/10	Surveillance.	Issue 01 :	Surveillance.
Version 00 : 2015/07/22	Renouvellement et nouvelle forme du document.	Issue 00 :	Renewal and new document template.

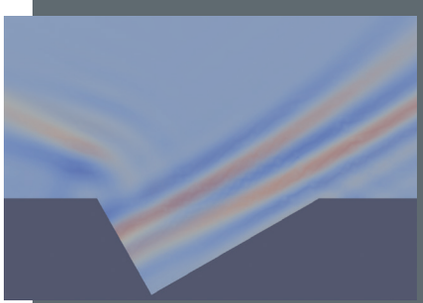
LCIE
Laboratoire Central des Industries Electriques
Une société de Bureau Veritas

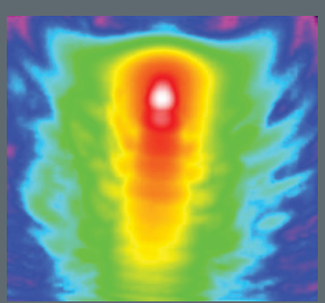
33 Avenue du Général Leclerc
92260 Fontenay-aux-Roses
FRANCE

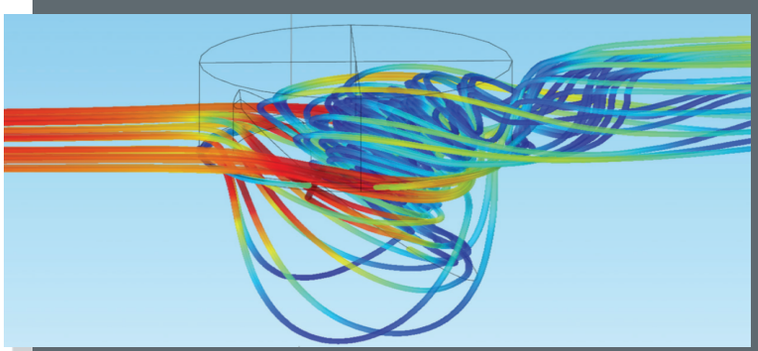
WWW.LCIE.FR

Research and Development Department

The products of the Ultraflux range are developed on our site of Eragny sur Oise where our research team benefits from a laboratory and dedicated means, of high level.

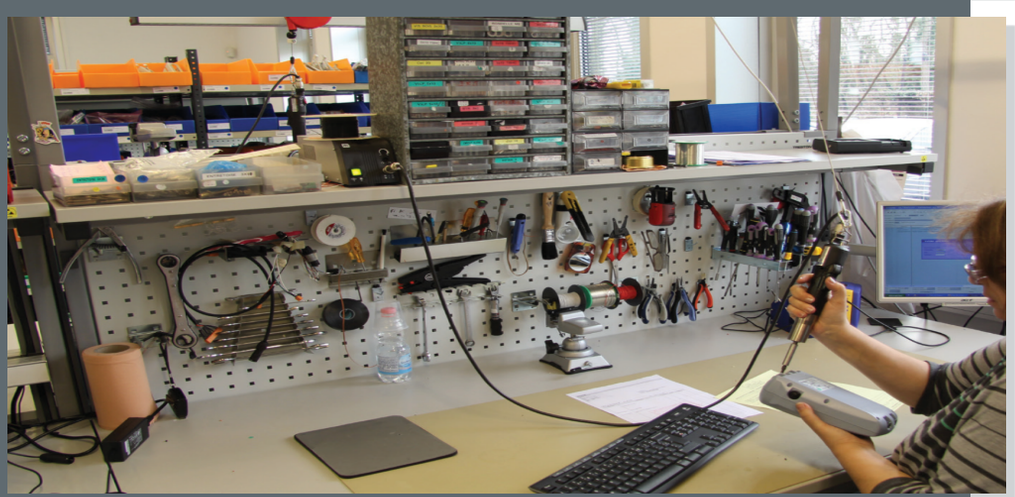






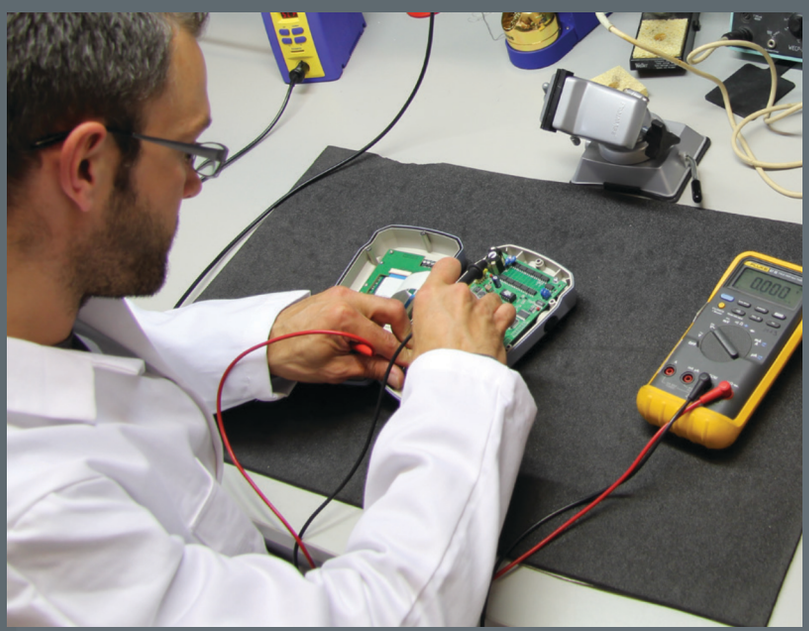
- Hydraulic test bench
- Ultrasonic research bench
- Simulation and modeling of CFD flows

Production and Engineering Departments



- Manufacturing
- Assembly
- Engineering
- Customization

After-sales department



A team of specialists for :

- Installation
- Commissioning
- Maintenance
- Calibration
- Repair

Rental Department

- Quick handling of your request
- Verification of the compatibility of your application with our equipment
- Possibility of daily rental
- Delivery the day before the first day of rental
- Decreasing rate from the 2nd day of rental
- Technical phone assistance

Our Ultraflux products

Portable flowmeters

Fixed stations

- Flow measurement on full pipes
- Fixed stations - Flow measurement on open channels
- Gas flow measurement fixed stations
- Specific fixed stations - ISD & PSD

Range of external clamp on probes

Range of intrusive probes

Range of immersed probes ("wet" probes)

ATEX versions of electronics and probes

Portable flowmeters
Flow measurement on loaded pipes

Product name	Minisonic II Portable	Uf - 801 P
		
Type of instrument	Portable flow meter Analog signal processing	Portable flow meter Digital signal processing
Measured fluids	Liquids	Liquids / Gas **
Usage conditions	On loaded pipes	On loaded pipes
Pipe diameter	Up to 10,000 mm	Up to 10,000 mm
Inputs / Outputs Mounted as standard	**(1x) 4-20 mA output** isolated active **(2x) contact output** isolated active (count or status outputs)	-
Inputs / Outputs Optional	-	Up to 4 modules to choose from: **(1x) active isolated analog output** : 4-20 mA current, 0-20 mA, 0-24 mA - **module 1** **(2x) Solid state relay outputs** In frequency outputs (up to 1kHz) - **module 2** **(2x) isolated current inputs** 4-20 mA, 0-20 mA, 0-24 mA - **module 3** **(2x) voltage inputs** 0-10 v - **module 4** **(2x) temperature inputs Pt100 / Pt1000** Physically taking the place of 2 modules - **module 5** (double) **(2x) contact inputs** Pulse or status - **module 6**
Protection class	EN/IEC 60659 IP 68 type	EN/IEC 60659 IP 68 type
Measurement uncertainty *	Up to 0.5% of the measurement *	Up to 0.5% of the measurement *
Diagnostic help	Visualization of the measurement echo Quality index Gain...	Visualization of the measurement echo Quality index Gain...
Logger	Yes	Yes
Maximum number of speed cords	1 Cord	2 Cords
Available models	Standard	Standard / Bi cords / Bi pipes / Calorimetry / Bi calorimetry

* Requires strict adherence to the product application conditions. The accuracy of the measurement also depends on the accuracy with which the geometry of the measurement point, the dimensions of the probe pairs, the distance between probes and the length of the wave path between two probes are measured.
An inaccuracy in any of these values can compromise the accuracy of the measurement.

** measure on gas, consult us.


Débit
153,26
Totalisateur
Minisonic II
Ultraflux
MENU
OK


Uf 801P by Ultraflux
A
Fn
B

Stationary flowmeters
Flow measurement on loaded pipes - Analog signal processing

Product name	Minisonic	Minisonic II
		
Type of instrument	Stationary Flowmeters	Stationary Flowmeters
Measured fluids	Liquids	Liquids / Gas **
Usage conditions	On loaded pipes	On loaded pipes
Pipe diameter	Up to 10,000 mm	Up to 10,000 mm
Inputs / Outputs Mounted as standard	**(1x) 4-20 mA output** isolated active **(2x) contact output** isolated active (count or status outputs)	**(1x) 4-20 mA output** isolated active **(2x) contact output** isolated active (count or status outputs)
Inputs / Outputs Optional	-	**(4x) Pt100 inputs** - 2 wires **(2x) Pt100 inputs** - 3 wires
Protection class	EN/IEC 60659 **IP67**	EN/IEC 60659 **IP67**
Measurement uncertainty *	Up to 0.5% of the measurement *	Up to 0.5% of the measurement *
Diagnostic help	Visualization of the measurement echo Quality index Gain...	Visualization of the measurement echo Quality index Gain...
Logger	Yes	Yes
Maximum number of speed cords	1 Cord	2 Cords
Available models	One Cord - One Pipe	One Cord - One Pipe Two Cords - One Pipe One Cord - Two Pipe
Explosion proof enclosure - ATEX	-	 Available early 2022

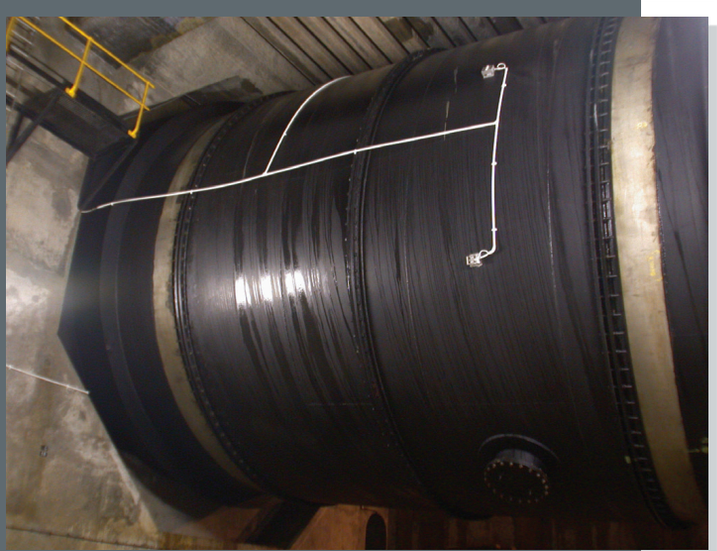
* Requires strict adherence to the product application conditions. The accuracy of the measurement also depends on the accuracy with which the geometry of the measurement point, the dimensions of the probe pairs, the distance between probes and the length of the wave path between two probes are measured.
An inaccuracy in any of these values can compromise the accuracy of the measurement.


Ultraflux
Débit - A IQ 100%
1236 l/h
Totalisateur
Minisonic

Stationary flowmeters
Flow measurement on loaded pipes - Digital signal processing

Product name	Uf - 811	Uf - 821	UF - 831
			
Type of instrument	Stationary Flowmeters	Stationary Flowmeters	Stationary Flowmeters
Measured fluids	Liquids	Liquids	Liquids
Usage conditions	On loaded pipes	On loaded pipes	On loaded pipes
Pipe diameter	Jusqu'à 10 000 mm	Jusqu'à 10 000 mm	Jusqu'à 10 000 mm
Inputs / Outputs Mounted as standard	**(2x) solid state relay outputs** (50 V - 10 mA) usable as frequency outputs (up to 1KHz) - **Module 2**		
Inputs / Outputs Optional	Up to 4 modules to choose from:		Up to 8 modules to choose from:
	(1x) isolated and active analog output: current 4-20 mA, 0-20 mA, 0-24 mA - **Module 1** **(2x) static relay outputs** (50 V- 10 mA) usable as frequency outputs (up to 1KHz) - **Module 2** **(2x) isolated and passive analog inputs** 4-20 mA, 0-20 mA, 0-24 mA - **Module 3** **(2x) isolated and passive analog inputs** 0-10 V : voltage from 0 to 15 V - **Module 4** **(2x) PT 100/PT 1000 temperature inputs** physically taking up the space of 2 modules - **Module 5 (double)** **(2x) 5V digital contact inputs** (pulse or status) - **Module 6**		
Protection class	EN/IEC 60659 **IP67**	EN/IEC 60659 **IP67**	EN/IEC 60659 **IP67** **(IP20** in Fieldbus version)
Measurement uncertainty *	Up to 0.5% of the measurement *	Up to 0.5% of the measurement *	Up to 0.5% of the measurement *
Diagnostic help	Visualization of the measurement echo Quality index Gain...	Visualization of the measurement echo Quality index Gain...	Visualization of the measurement echo Quality index Gain...
Logger	Yes	Yes	Yes
Maximum number of speed cords	2 cords	4 cords	8 cords
Explosion proof enclosure - ATEX	-		

* Requires strict adherence to the product application conditions. The accuracy of the measurement also depends on the accuracy with which the geometry of the measurement point, the dimensions of the probe pairs, the distance between probes and the length of the wave path between two probes are measured.
An inaccuracy in any of these values can compromise the accuracy of the measurement.



Stationary flowmeters
Flow measurement on free surface flow - Digital signal processing

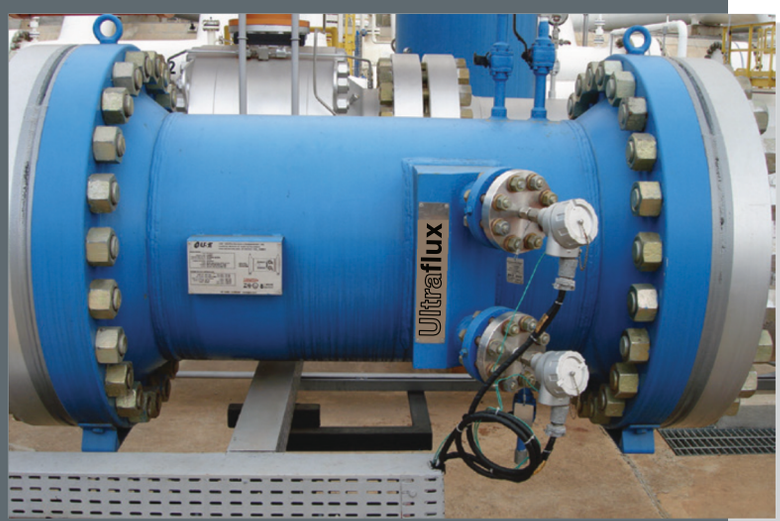
Product name	Uf - 811 CO	Uf - 821 CO RV	UF - 831 CO RV
			
Type of instrument	Stationary Flowmeters	Stationary Flowmeters	Stationary Flowmeters
Measured fluids	Liquids	Liquids	Liquids
Usage conditions	Open channel measurement: up to 30m	Open channel measurement: up to 30m River measurement: up to 300m	Open channel measurement: up to 30m River measurement: up to 500m
Inputs / Outputs Mounted as standard	**(2x) solid state relay outputs** (50 V - 10 mA) usable as frequency outputs (up to 1KHz) - **Module 2**		
Inputs / Outputs Optional	Up to 4 modules to choose from:		Up to 8 modules to choose from:
	(1x) isolated and active analog output: current 4-20 mA, 0-20 mA, 0-24 mA - **Module 1** **(2x) static relay outputs** (50 V- 10 mA) usable as frequency outputs (up to 1KHz) - **Module 2** **(2x) isolated and passive analog inputs** 4-20 mA, 0-20 mA, 0-24 mA - **Module 3** **(2x) isolated and passive analog inputs** 0-10 V : voltage from 0 to 15 V - **Module 4** **(2x) PT 100/PT 1000 temperature inputs** physically taking up the space of 2 modules - **Module 5 (double)** **(2x) 5V digital contact inputs** (pulse or status) - **Module 6**		
Protection class	EN/IEC 60659 **IP67**	EN/IEC 60659 **IP67**	EN/IEC 60659 **IP67** **(IP20** in Fieldbus version**)**
Measurement uncertainty *	Up to 0.5% of the measurement *	Up to 0.5% of the measurement *	Up to 0.5% of the measurement *
Diagnostic help	Visualization of the measurement echo Quality index Gain...	Visualization of the measurement echo Quality index Gain...	Visualization of the measurement echo Quality index Gain...
Available models	Standard / Two Pipes / Two Cords	One Canal / Multi Canal	One Canal / Multi Canal / River
Logger	Yes	Yes	Yes
Maximum number of speed cords	2 cords	4 cords	8 cords
Explosion proof enclosure - ATEX	-		

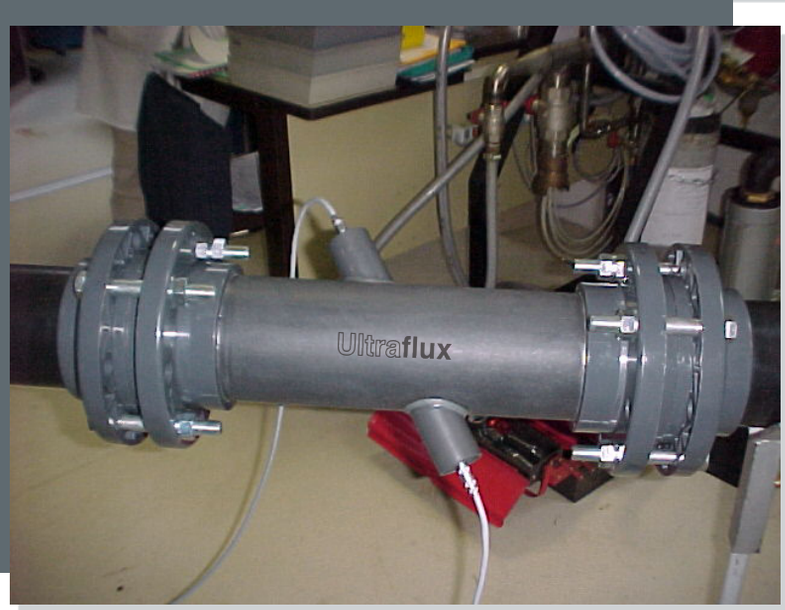
* Requires strict adherence to the product application conditions. The accuracy of the measurement also depends on the accuracy with which the geometry of the measurement point, the dimensions of the probe pairs, the distance between probes and the length of the wave path between two probes are measured.
An inaccuracy in any of these values can compromise the accuracy of the measurement.

Stationary flowmeters
Gas flow measurement

Product name	Minisonic II Gas	Uf - 811 Gas	UF - 821 Gas
			
Type of instrument	Stationary Flowmeters Analogic Signal Processing	Stationary Flowmeters Digital Signal Processing	Stationary Flowmeters Digital Signal Processing
Measured fluids	Gas	Gas	Gas
Usage conditions	On loaded pipes	On loaded pipes	On loaded pipes
Inputs / Outputs Mounted as standard	**(1x) 4-20 mA output** isolated active **(2x) contact output** isolated active (count or status outputs)	**(2x) solid state relay outputs** (50 V - 10 mA) usable as frequency outputs (up to 1KHz) **- Module 2**	
Inputs / Outputs Optional	**(4x) Pt100 inputs** - 2 wires **(2x) Pt100 inputs** - 3 wires	Up to 4 modules to choose from:	Up to 8 modules to choose from:
		(1x) isolated and active analog output: current 4-20 mA, 0-20 mA, 0-24 mA - **Module 1** **(2x) static relay outputs** (50 V- 10 mA) usable as frequency outputs (up to 1KHz) - **Module 2** **(2x) isolated and passive analog inputs** 4-20 mA, 0-20 mA, 0-24 mA - **Module 3** **(2x) isolated and passive analog inputs** 0-10 V : voltage from 0 to 15 V - **Module 4** **(2x) PT 100/PT 1000 temperature inputs** physically taking up the space of 2 modules - **Module 5 (double)** **(2x) 5V digital contact inputs** (pulse or status) - **Module 6**	
Protection class	EN/IEC 60659 **IP67**	EN/IEC 60659 **IP67**	EN/IEC 60659 **IP67** **(IP20** in Fieldbus version**)**
Measurement uncertainty *	Up to 0.5% of the measurement *	Up to 0.5% of the measurement *	Up to 0.5% of the measurement *
Diagnostic help	Visualization of the measurement echo Quality index Gain...	Visualization of the measurement echo Quality index Gain...	Visualization of the measurement echo Quality index Gain...
Available models	One Cord - One Pipe Two cords - One Pipe One Cord - Two Pipe	One Canal / Multi Canal	One Canal / Multi Canal
Logger	Yes	Yes	Yes
Maximum number of speed cords	2 cords	4 cords	8 cords
Explosion proof Enclosure - ATEX	 Available early 2022		

* Requires strict adherence to the product application conditions. The accuracy of the measurement also depends on the accuracy with which the geometry of the measurement point, the dimensions of the probe pairs, the distance between probes and the length of the wave path between two probes are measured.
An inaccuracy in any of these values can compromise the accuracy of the measurement.


Ultraflux


Ultraflux

Sphere detectors and Interface detectors
For loaded conduits - Analog signal processing

Product Name	**Minisonic II PSD**	**Minisonic II ISD**
		
Type of instrument	Sphere and scraper detector	Interface detector
Measured fluids	Liquid & gas	Liquid & gas
Usage conditions	On loaded pipes	On loaded pipes
Inputs / Outputs Mounted as standard	**(1x) 4-20 mA output** isolated active **(2x) contact output** isolated active (count or status outputs)	**(1x) 4-20 mA output** isolated active **(2x) contact output** isolated active (count or status outputs)
Protection class	EN/IEC 60659 **IP67**	EN/IEC 60659 **IP67**
Measurement uncertainty *	Up to 0.5% of the measurement *	Up to 0.5% of the measurement *
Diagnostic help	Visualization of the measurement echo Quality index Gain...	Visualization of the measurement echo Quality index Gain...
Available models	One Cord - One Pipe Two cords - One Pipe One Cord - Two Pipe	One Cord - One Pipe Two cords - One Pipe One Cord - Two Pipe
Explosion proof Enclosure - ATEX	 Available early 2022	 Available early 2022

* Requires strict adherence to the product application conditions. The accuracy of the measurement also depends on the accuracy with which the geometry of the measurement point, the dimensions of the probe pairs, the distance between probes and the length of the wave path between two probes are measured.
An inaccuracy in any of these values can compromise the accuracy of the measurement.

Ultraflux probes

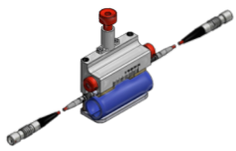
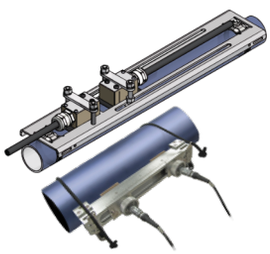
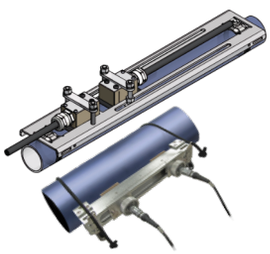
Ultraflux brand has its own range of probes: these have been developed specifically to fit Ultraflux converters perfectly.

Our engineers design external probes as well as insertion probes or wet probes.

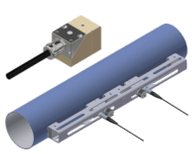
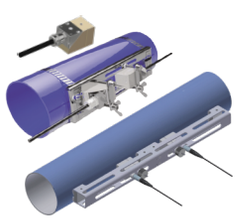
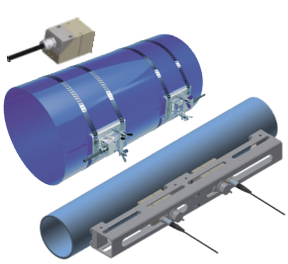
Below are some examples of Ultraflux probes. This list is not exhaustive.

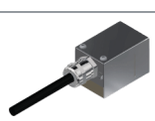
For more information on all available models, please contact us.

External probes - clamp on

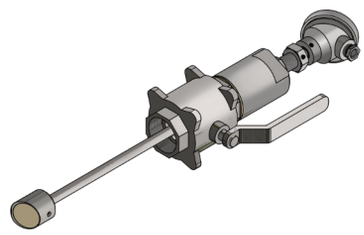




Product Name	SE 1791	SE 1790 Standard	SE 1790 Hight performance
Pipe diameter	From 6 to 25.4 mm	From 20 to 120 mm	From 14 to 400 mm
Temperature range of use	From -20 to +80 °C	From -20 to +140 °C	From -20 to +110 °C
Connectic	Push / Pull	Push / Pull for portables. Cable gland for fixed station	Push / Pull for portables. Cable gland for fixed station
Protection Index	EN/IEC 60529 IP54	EN/IEC 60529 IP67	EN/IEC 60529 IP67
Dedicated mounting bracket	Spécific	Yes - Mounting bracket	Yes - 2 Mounting bracket types
ATEX version	No		No

Product Name	SE 1815 Standard	SE 1815 Hight performance	SE 1899 Hight performance
Pipe diameter	From 40 to 1000 mm	From 40 to 3000 mm	From 100 to 7500 mm
Temperature range of use	From -20 to +150 °C	From -20 to +110 °C	From -20 to +110 °C
Connectic	Push / Pull for portables. Cable gland for fixed station	Push / Pull for portables. Cable gland for fixed station	Push / Pull for portables. Cable gland for fixed station
Protection Index	EN/IEC 60529 IP67 (IP68 as an option)	EN/IEC 60529 IP67 (IP68 as an option)	EN/IEC 60529 IP67
Dedicated mounting bracket	Yes	Yes	Yes
ATEX version		No	No

Sondes à insertion

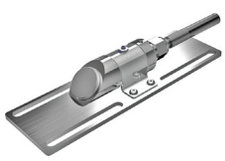


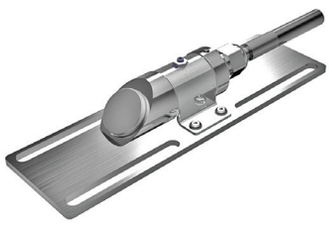
Product Name	SI 1614	SI 1612	SI 1611
Pipe diameter	From 80 to 2000 mm	From 120 to 4000 mm	From 120 to 7500 mm
Temperature range of use	From -10 to +60 °C	From -10 to +60 °C	From -10 to +60 °C
Connectic	Terminal block connection in the connection housing.	Terminal block connection in the connection housing.	Terminal block connection in the connection housing.
Protection Index	EN/IEC 60529 IP67	EN/IEC 60529 IP67	EN/IEC 60529 IP67
ATEX version	Option	Option	Option

Product Name	SI 1806	SI 1820
Pipe diameter	From 100 to 4000 mm	From 120 to 4000 mm
Temperature range of use	From -20 to +80 °C	From -10 to +60 °C
Connectic	Molded cable Or Connection head	Molded cable Or Connection head
Protection Index	EN/IEC 60529 IP67	EN/IEC 60529 IP67
ATEX version	Option	Option

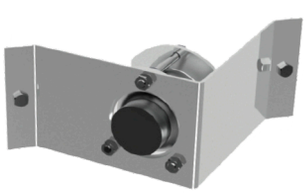
Ultraflux probes

Immersed probes - Wetted





Product Name	SM 1654	SM 1686	SM 1527
Pipe diameter	From 1 to 4 m between probes	From 2 to 5 m between probes	From 3 to 15 m between probes
Temperature range of use	<60°C	<80°C	<80°C
Connectic	Molded cable	Molded cable	Molded cable
Protection Index	EN/IEC 60529 IP68	EN/IEC 60529 IP68	EN/IEC 60529 IP68
Probe angles	45°	45°	0°
ATEX version	-	-	-



Product Name	SM 1689	SM 1690	SM 1613
Pipe diameter	From 20 to 50 m between probes	From 3 to 15 m between probes	From 2 to 15 m between probes
Temperature range of use	<80°C	<80°C	<80°C
Connectic	Molded cable	Molded cable	Molded cable
Protection Index	EN/IEC 60529 IP68	EN/IEC 60529 IP68	EN/IEC 60529 IP68
Probe angles	45°	45°	0°
ATEX version	-	-	-

Product Name	SM 1684	SM 1681	SM 1666
Pipe diameter	From 20 to 50 m between probes	From 50 to 100 m between probes	From 10 to 250 m between probes
Temperature range of use	< 60°C	< 60°C	< 60°C
Connectic	Molded cable	Molded cable	Molded cable
Protection Index	EN/IEC 60529 IP68	EN/IEC 60529 IP68	EN/IEC 60529 IP68
Probe angles	0°	0°	0°
ATEX version	-	-	-

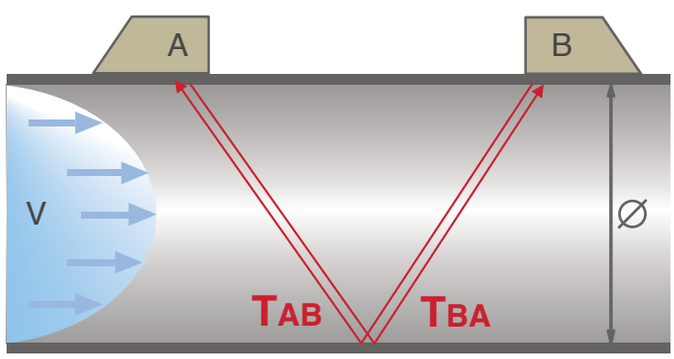
Flow measurement

Ultrasonic technology - Transit time

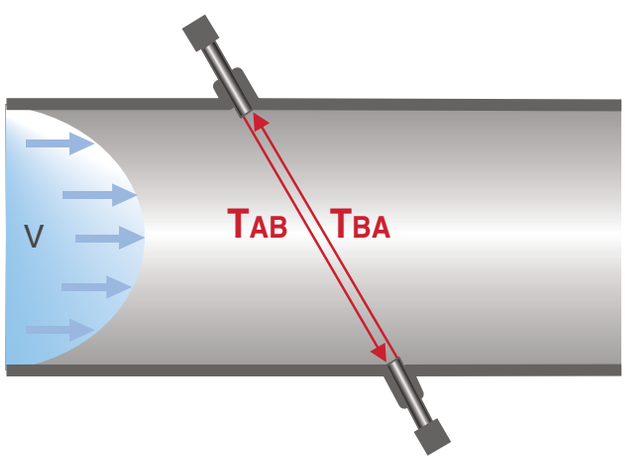
Measurement principle

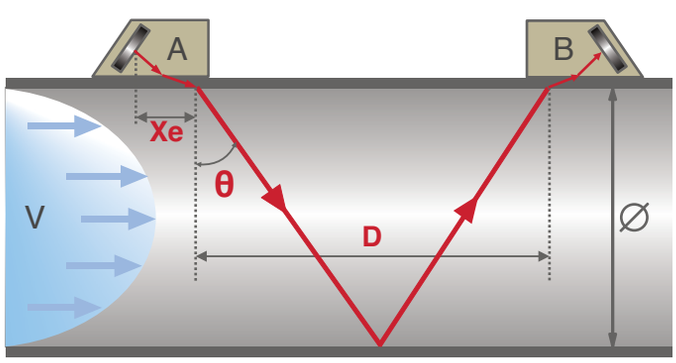
$$T_{AB} = L / (C + V_{US} \cos \theta)$$
$$T_{BA} = L / (C - V_{US} \cos \theta)$$
$$\Delta T = T_{BA} - T_{AB}$$
$$V_{US} = \frac{L^2}{2D} \quad \frac{\Delta T}{T_{AB} . T_{BA}}$$
$$V = Kh . V_{US}$$
$$Q = V . \varnothing$$

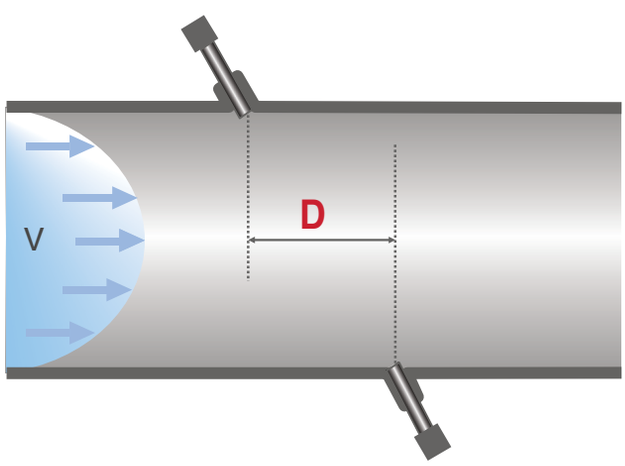
With external probes



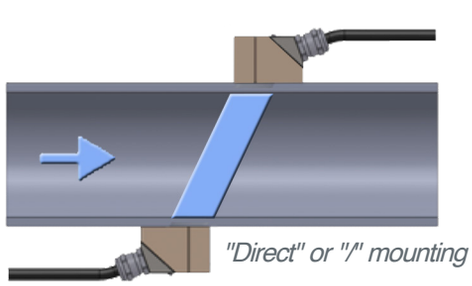
With insertion probes

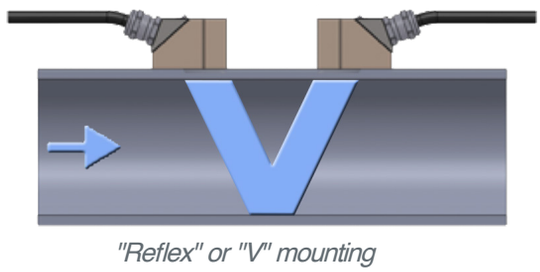


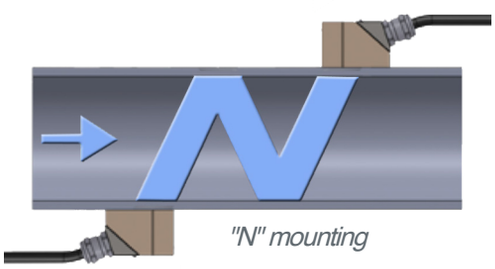


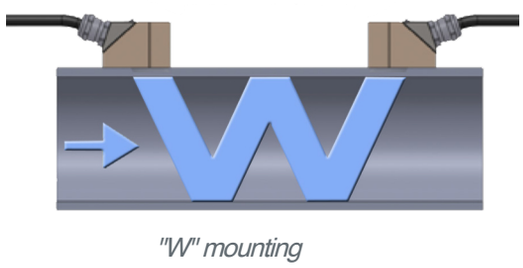


External probes clamp on









The preferred mounting is the V-mount, which is suitable in most cases.

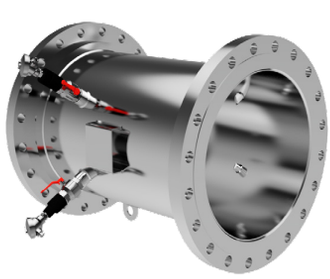
The longer the path, the better the measuring principle is used. (important difference of time of course upstream downstream)

On the other hand, the ultrasonic echo will be weaker and more distorted as the number of reflections increases and will be difficult to exploit. It is therefore necessary to find a compromise between precision and ease of transmitting and receiving ultrasound. This compromise depends on the application (fluid, wall quality, diameter, etc.).

In practice, multiple reflection modes are reserved for smooth pipes without fouling or corrosion.

Insertion probes

The insertion probes allow for parallel multicord installations and guarantee accuracies of up to 0.5%.



Ultraflux
Ultrasonic Flowmeters

FAURE HERMAN