

## Hydropower

Ultraflux expertise



## Introduction

Since its foundation in 1974 Ultraflux has been designing, developing, manufacturing and marketing its own extensive range of products. Our complete range includes, portable and fixed flow meters for liquids and gases, open channel meters, clamp on heat meters, interface and pig detectors and gas level measurement systems (i.e. level measurement in gas storage caverns).

Ultraflux's focus on ultrasonic transit time flow measurement and ultrasonic instrumentation gives us the technical skill and experience to solve even the most demanding applications.



Calibration bench



Ultrasonic test bench



Engineering



Production



After sales service

ULTRAFLUX HEADQUARTER

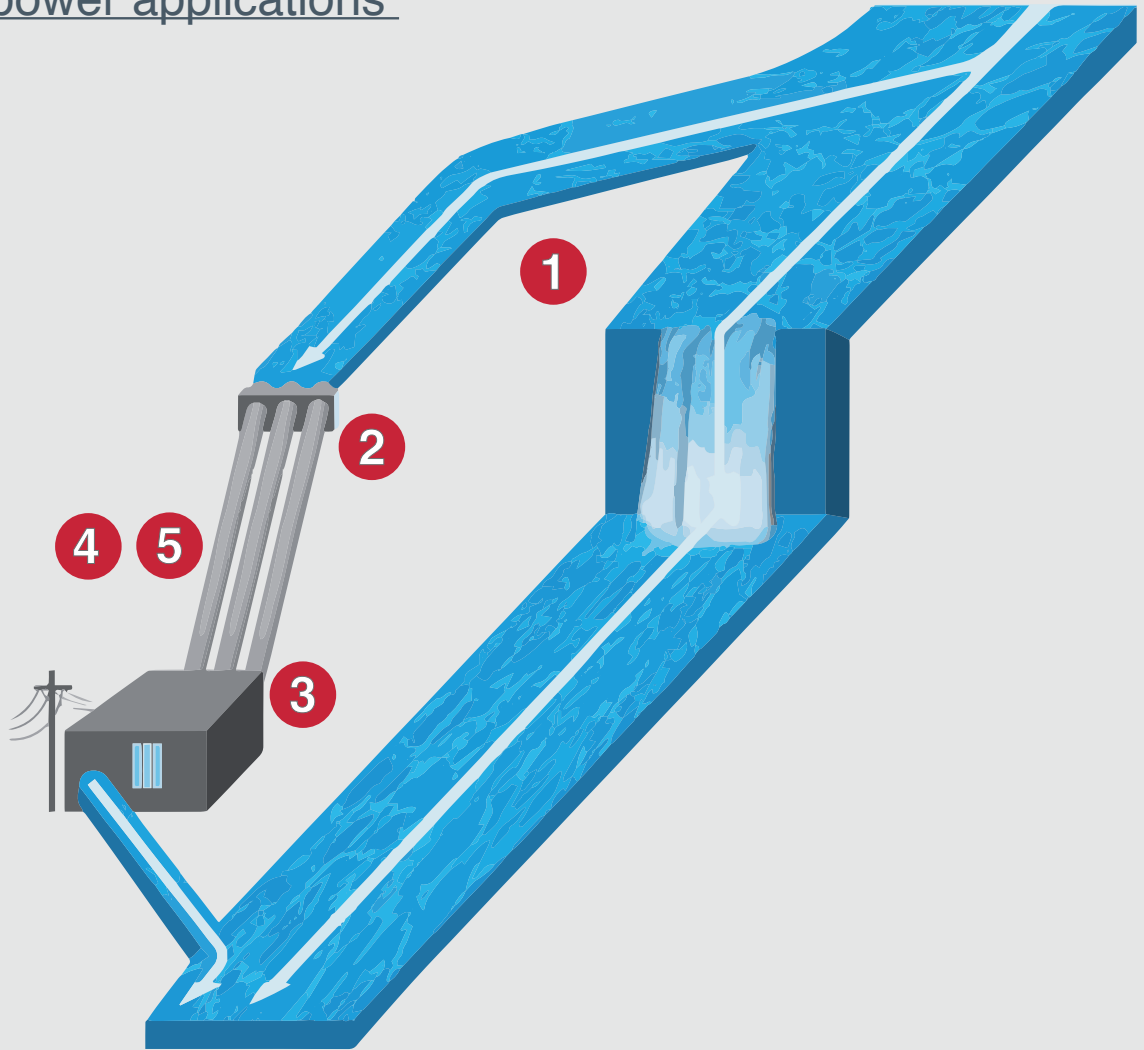
ULTRAFLUX SUBSIDIARY



ÉRAGNY SUR OISE  
(30KM FROM PARIS)

BANGKOK  
THAILAND

## Hydropower applications



**1** Supply and reserved flow measurement

**2** Overspeed and flow measurement

**3** Performance measurement

**4** Expertise

**5** Line balance

# Full pipe flow measurement

## Clamp-on probes

- Supply and reserved flow
- Overspeed and flow measurement
- Performance
- Line balance
- Expertise



### Technology benefits

- Continuous flow measurement
- Dynamic measurement - Short response time
- Non-intrusive probes
- No facility modifications
- No process interruption
- Reduced installation costs
- No leak issue due to probes mounting
- Durability of the measurement point
- Reduced and simple maintenance
- No pressure drop
- Good accuracy and repetability
- Multi pipe option



## Reserved flow measurement

Fixed station flowmeter - Clamp-on probes  
Barrage de Saint Claude - 39 - France



## Supply flow measurement

Fixed station flowmeter - Clamp-on probes  
Touche Poupard - 79 - France



## Performance

Fixed station flowmeter - Clamp-on probes  
Bioge - 74 - France



## Expertise

Portable flowmeter - Clamp-on probes



# Full pipe measurement

## Insertion probes - Immersed probes

- Supply and reserved flow
- Overspeed and flow measurement
- Performance
- Line balance



### Technology benefits

- Continuous flow measurement
- Dynamic measurement - Short response time
- Increased accuracy - Parallel multi-chord option
- Compliant to IEC 60041 norm – Turbine efficiency control
- Underload extractable probes for easy maintenance
- Inner pipe mounting for buried installation
- Low maintenance

## Performance

Fixed station flowmeter - Insertion probes  
Laruns - 64 - France



## Performance

Fixed station flowmeter - Immersed probes  
Geteu - 64 - France



## Line balance

Fixed station flowmeter - Immersed probes  
Porte Sachet - 39 - France



# Supply / Reserved flow measurement Immersed probes

- Reserved flow measurement
- Supply flow measurement

1

## Technology benefits

- Technical solution according to ISO 6416 standards
- Continuous flow measurement
- Dynamic measurement - Short response time
- Range from flood to low flow
- Multi chord option for low straight length conditions
- Low maintenance



## Supply flow measurement

Fixed station flowmeter - Immersed probes  
Canal de la Siagne - 83 - France



## Reserved flow measurement

Fixed station flowmeter - Immersed probes  
Canal - 69 - France

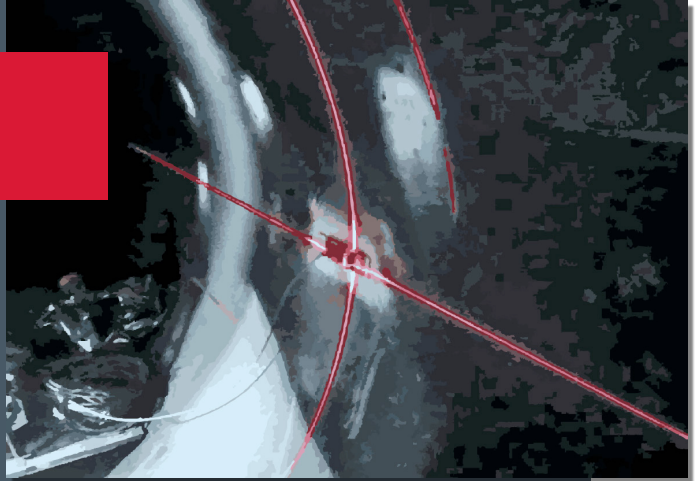


# Technical services – Engineering

- **On-site services**
  - Comparative measurement
  - Performance control
  - Project design
  - Commissioning and service support
  - Visits and preventive maintenance
  - After sale service
- **Flowmeter rental**
- **Fluid dynamics analysis CFD**
- **Dimensional control**
- **Tailor-made spool pipe**

## **Commissioning**

Immersed probe installation



## **Dimensional control**

3x Dimensional tool



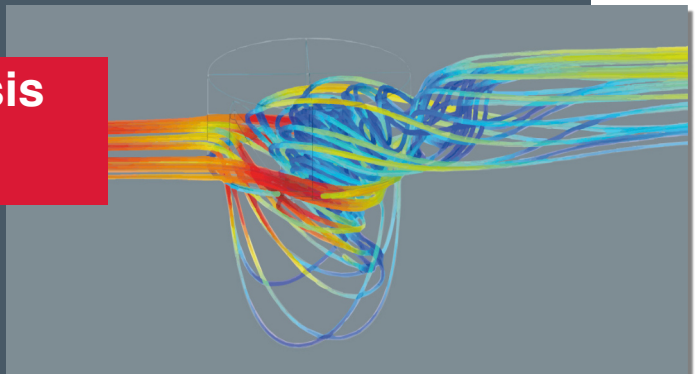
## **Visits & maintenance**

Probe installation control



## **Fluid dynamics analysis**

Using CFD simulation tool



**Siège****Ultraflux S.A.**

Bâtiment Texas- Éragny Parc  
9 allée Rosa Luxemburg  
95610 Éragny sur Oise, France  
P. +33 (0)130 27 27 30  
F. +33 (0)130 39 84 34  
[www.ultraflux.fr](http://www.ultraflux.fr)  
[contact@ultraflux.fr](mailto:contact@ultraflux.fr)

**Ultraflux Asia Co Ltd.**

262-268 Worachak Road,  
Baanbart, Pomprab-sattupai  
10100 Bangkok, Thailand  
P. +66 (0) 26211848  
F. +66 (0) 26211849  
[www.ultraflux.com](http://www.ultraflux.com)

**Ultraflux**  
Débitmètres à ultrasons