

Instrumentation for Chemical industries



A photograph of an industrial distillation plant at night. Several tall, cylindrical distillation columns are illuminated by warm yellow lights, creating a strong contrast against the dark blue twilight sky. The columns are connected by a complex network of pipes, ladders, and walkways. The overall scene is one of a busy, well-lit industrial facility.

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Introduction

Fuji Electric Co., Ltd. Group

Founded in Japan in 1923, the Fuji Electric Co., Ltd. Group is recognised as one of the world leaders in electrical power equipment, industrial controllers and instrumentation. With over 8 billion dollars* in turnover and 27,400 employees* worldwide, Fuji Electric's engineers and technicians play an active part in all technological innovations in the field of energy optimisation and savings. Thanks to the experience it has acquired in developing electronic components and perfect command of the most recent technologies, Fuji Electric offers products which are perfectly adapted to applications in most industrial sectors including production, electrical energy transport and industrial equipment.

*as for March, 2019



Fuji Electric France S.A.S.

Fuji Electric France is a subsidiary company of the worldwide group, Fuji Electric Co. Ltd. We manufacture and sell industrial products throughout Europe and specialise in the manufacture of pressure transmitters. Our worldwide reputation and expertise has been built on measurement, monitoring, regulation, analysis of combustion gases, metering, energy optimisation and radiation monitoring.

Our manufacturing site at Clermont-Ferrand and recent expansion to Cournon d'Auvergne has enabled us to guarantee the fastest manufacturing turnaround times for our pressure transmitters in more than 20 years, and to provide a European wide service to our clients, for all our products.

Thanks to experience acquired in the development of transmitters adapted to the most challenging applications (chemical, oil, nuclear, etc.), our company has become an essential centre of competence, recognised in the process industries. The instruments produced by our plants are among the most efficient on the market.

Fuji Electric is here to help you throughout your project with diagnosis, advice, solutions, commissioning, assistance with operation and maintenance. We will deliver a tailored response that is best suited to your specific needs and to support you in the control and enhancement of your process.



HIGH-PERFORMANCE PRODUCTS...

Pressure measurement is used in many industrial process applications. Real-time level, flow or density information is gained during absolute, relative or differential pressure measurements.

The excellent reliability and measuring accuracy of our equipment will increase the performance of your process to ensure maximum availability. In chemical industry applications (distillation columns, reactors, separators, etc.), the characteristics of our products allow you to optimize your **operating costs (OPEX)**.

Thanks to the skills of our R&D teams, we are able to offer :

- Mounting solutions with a wide variety of process seals, for even the most aggressive fluids
- A close relationship with privileged contacts to guarantee reactivity and solutions to your problems.

- *Calibration: $\pm 0,04$ % of the calibrated span*

- *Response time: 80ms*

- *Extremely robust reliability*

- *Guarantee: up to 5 years*

- *SIL2 & SIL3
SFF* > 97%*

- *Process temperature :
-70°C to +350°C*

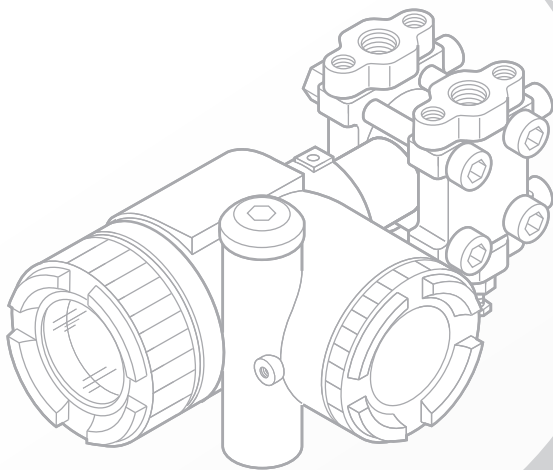
- *Long term stability*

- *Designs for
harsh environments*

- *Options available for high
differential static pressures
(up to 1 400 bar)*

- *Numerous approvals for
explosive atmospheres:
ATEX, IECEx, cCSAus*

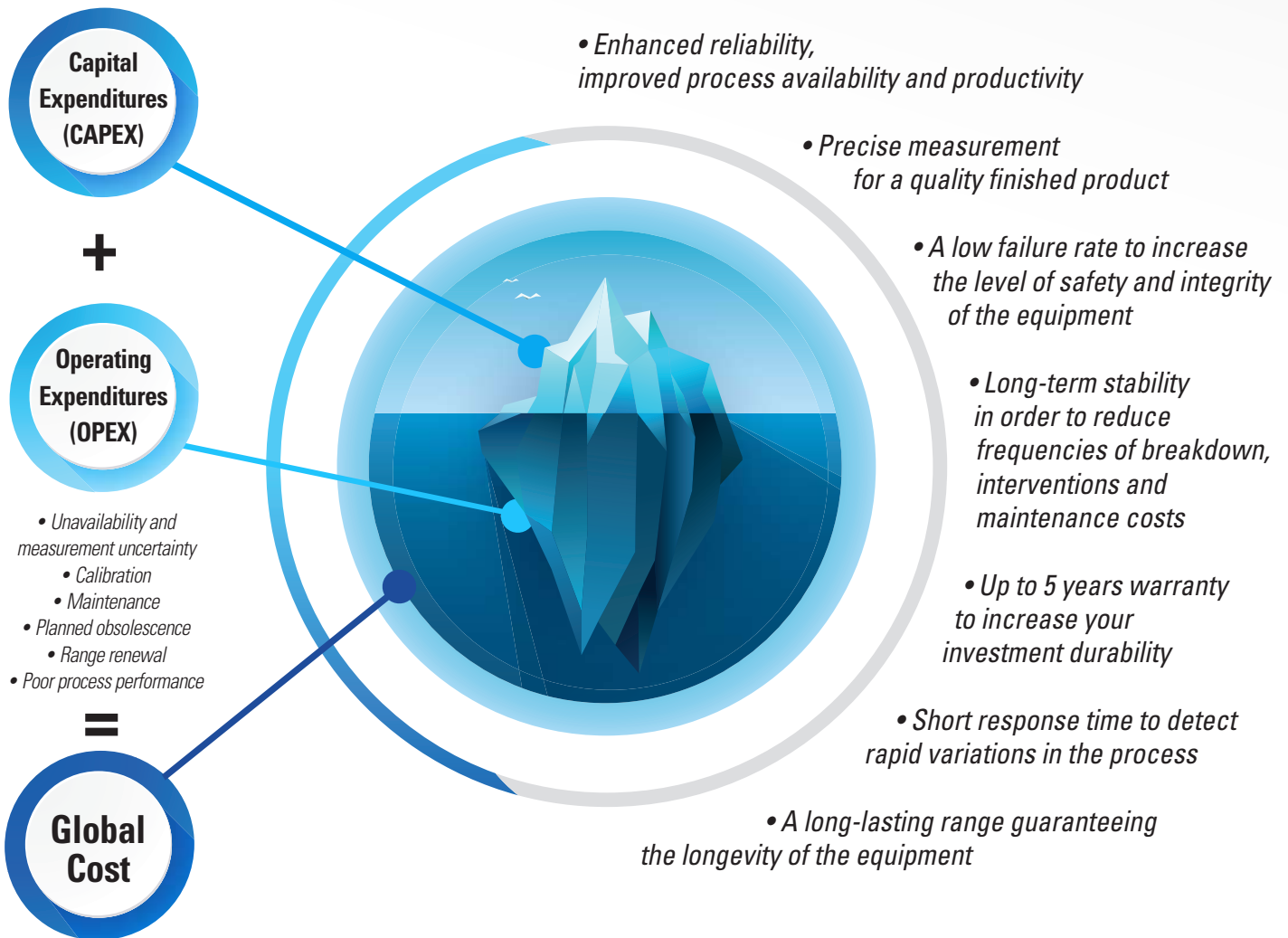
- *Various materials available
for wetted parts: Tantalum, Hastelloy®,
Monel®, PVDF®, etc.*



... LEAD TO OPTIMIZED PROFIT

Controlling and reducing capital expenditure (**purchase**) and operating expenditure (**cost of ownership**) remains a priority for many companies.

Good purchasing decisions result in lower maintenance costs and better process performance.



The improvement of installations allows you to optimize the energy and raw material consumption, thanks to precise measurement tools adapted to your processes.

The performance obtained generates a substantial and not insignificant gain in operating and investment costs.





Gauge pressure transmitter with PVDF adapter

Specifications:

- Remote seal with Tantalum wetted parts
- PVDF adapter to avoid any form of corrosion

Applications:

Measurement of corrosive processes



Gauge pressure transmitter

Applications:

Urea fluid measurement



Gauge pressure transmitter with dismantling under load

Specifications:

Remote seal with integrated ball valve to remove transmitter from the process under pressure

Applications:

Pressure or level measurement on tanks



Differential pressure transmitter with PVDF inserts

Specifications:

- Wetted parts of the cells in Tantalum or Hastelloy®, PVDF inserts, PTFE square section gasket
- Standard process connection: 1/2" -14 NPT

Applications:

Measurement of various highly corrosive processes (chlorine, hydrochloric acid, sulphuric acid, etc.)



Differential pressure transmitter with remote seals and capillaries

Specifications:

Remote seals with PFA lining:

- Non sticking purpose of the process on the wetted parts
- Very good resistance to organic and inorganic compounds

Applications:

Level, density and flow measurement



Differential pressure transmitter with protective gold plating

Specifications:

- Remote seal gasket with groove and flushing diaphragm
- Remote seals with gold coating for corrosion protection diaphragm coating to protect against hydrogen ion penetration

Applications:

Level measurement on closed tank



Differential pressure transmitter with process connection in PVDF

Specifications:

- Flanges DN15 PN10
- Parts in contact with the cell made of Tantalum or Hastelloy® and process connections in PVDF

Applications:

Measurement in very corrosive process (chlorine, hydrochloric acid, sulphuric acid etc.)



Flow measurement

Approvals :



Differential pressure transmitter with PVDF flanges

Specifications:

- Process connection (54mm centre distances for manifold mounting)
- PVDF flanges, PTFE square section gasket
- Detecting unit wetted parts in Tantalum

Applications:

Highly corrosive process (chlorine, hydrochloric acid, sulphuric acid etc.)



Differential pressure transmitter

Applications:

Flow measurement with integrated orifice in Hastelloy® and PVDF process connections (chemical resistance to chlorine)

Differential pressure transmitter with V-Cone® primary element

Applications:

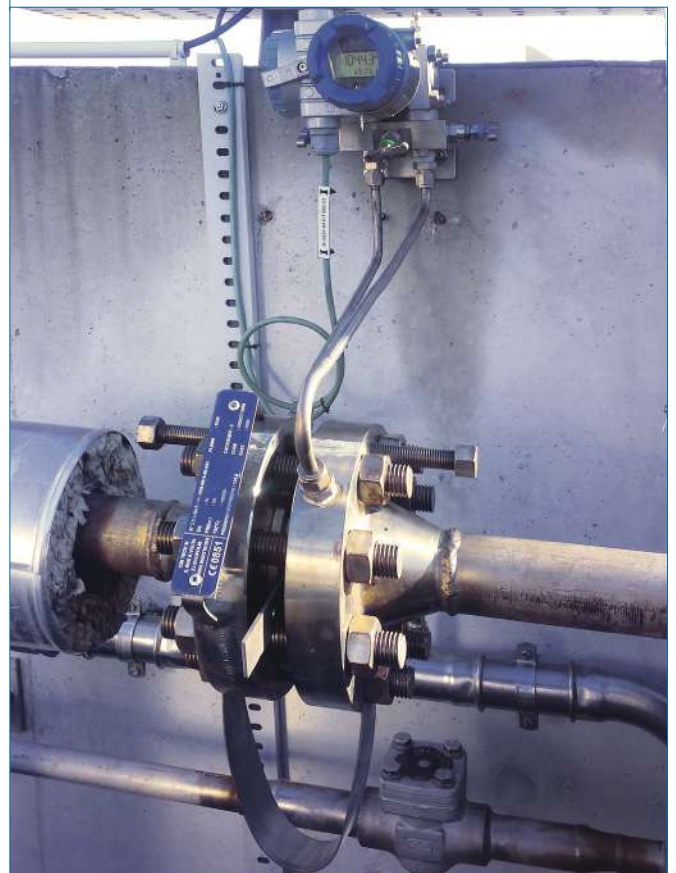
Liquid, gas and steam flow measurement



Differential pressure transmitter with orifice plate

Applications:

Liquid, gas and steam flow measurement



INSTRUMENTATION RANGE

Approvals :



Pressure transmitters



Hart® Temperature transmitter



ATEX in situ oxygen analyser



Electromagnetic flowmeter



Coriolis flowmeter



Ultrasonic flowmeter



Temperature probes



QUALITY AND ENVIRONNENT

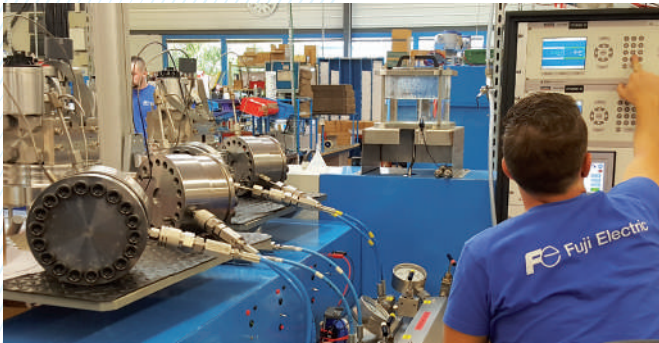
To ensure customer satisfaction, Fuji Electric France has set up an integrated management system based on the continuous improvement principle, in accordance with the requirements in the ISO 9001 and ISO 14001 international reference bases.

QUALITY CERTIFICATION

ISO 9001: 2015 Quality Management System (certificate No.1997/8402).

CALIBRATION

All our pressure transmitters may be provided with a 5-point calibration record using gauges connected to different international systems (ILAC-MRA, Cofrac, DKD, etc.). On request and for specific installations, the traceability of the connection of the measurement instruments used may also be mentioned.

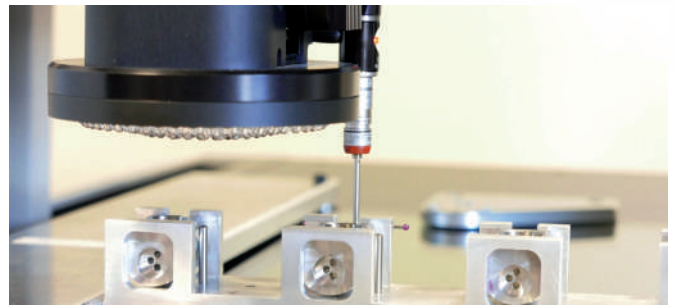


ENVIRONMENTAL CERTIFICATION

ISO 14 001: 2015 Environmental Management System (certificate No. 2014/59264)

METROLOGY

Fuji Electric France has its own metrology laboratory in its Clermond-Ferrand (France) factory. A three-dimensional viewing machine enables precise and quick verification of the different mechanical parts which make up the transmitter. Different pressure balance are used to calibrate transmitters under static pressure up to 1400 bar. A high accuracy pressure balance is used to calibrate our reference equipment.



ACCREDITATION & CERTIFICATION

EXPLOSIVE ATMOSPHERES

- ATEX (Europe)
- IECEx (World)
- cCSAus (Canada, United States)

PRODUCT CONFORMITY

- CE (Europe)
- Metrological certificates (Russia)
- DNV-GL Type Approval Certificate

ENVIRONMENTAL GAS ANALYSERS

- TÜV and MCERTS QAL1 EN14181 (Europe)
- DNV-GL and LLOYD'S REGISTER (Marine Certifications)

PRODUCT SAFETY

- K3-A/1E and K3-AD/1E (EDF Nuclear)
- SIL2/3 (World)
- PED (Europe)

PRODUCT TRACEABILITY

- ISO 15156-3 conformity
- NACE MR0103/MR0175 (World)

SAFETY AND INTEGRITY OF YOUR PROCESSES

The pressure transmitters FCX-All VG are certified according IEC 61508 and IEC 61511 to be SIL 2 (HFT=0) and SIL 3 (HFT=1) with the following parameters:



λ_{DU} (dangerous undetected)	37,6 10 ⁻⁹ /h
λ_{DU} (dangerous detected)	792 10 ⁻⁹ /h
λ_{SU+SD} (safe failures)	451 10 ⁻⁹ /h
SFF	97 %
PFH	3,8 10 ⁻⁸ /h

SERVICE

Fuji Electric is available to assist you in the metrological follow-up and maintenance of your instruments. Together, we devise a plan that is best suited to your industry, and our team remains at your disposal throughout the entire life cycle of the equipment.

The Fuji Electric team guarantees :

ASSISTANCE

Commissioning, maintenance contracts and on-site calibration (certificates)

ADVICE

Diagnostics and solutions for measuring, monitoring, regulating, automating and optimising procedures

REACTIVITY

Repair centre and supply of spare parts at our Clermont-Ferrand factory

TRAINING

Approved training centre for all products

EXPERTISE

Calibration services carried out with measurement tools in line with international metrological standards

OFF-SITE CALIBRATION

The use of a pressure calibration case enables our technicians to carry out all pressure transmitter verification and maintenance operations on-site. Just as for a workshop service, a 5-point calibration reading carried out using gauges connected to the different internal systems (ILAC-LRA, Cofrac, DKD, etc.) is provided. In combination with on-site temperature and flow rate verification resources, our team can carry out full maintenance and calibration campaigns for your on-site instruments.





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