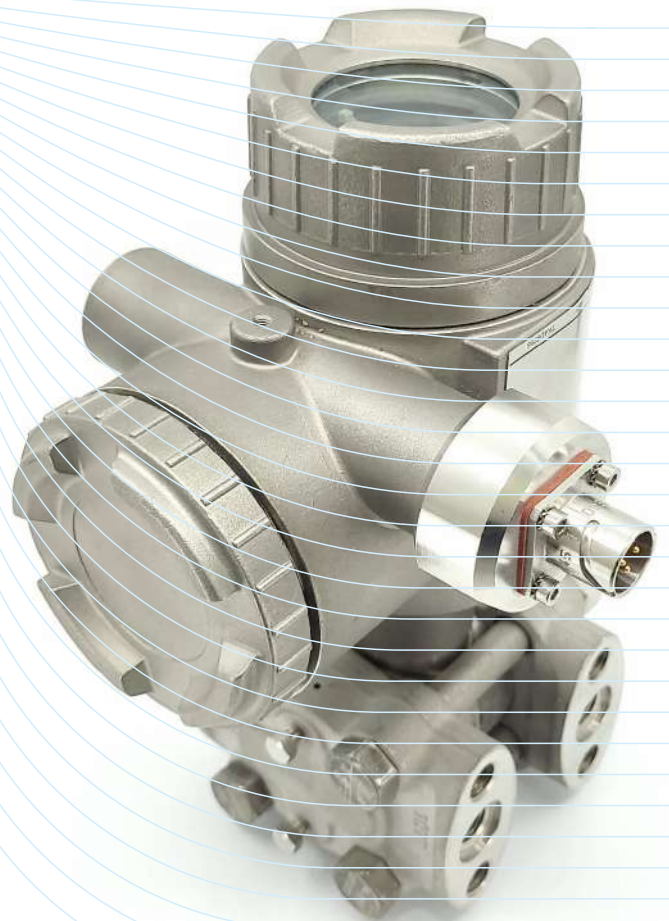


# **Instrumentation for the nuclear industry**

Safety - Reliability - Performance



**MADE IN  
FRANCE**

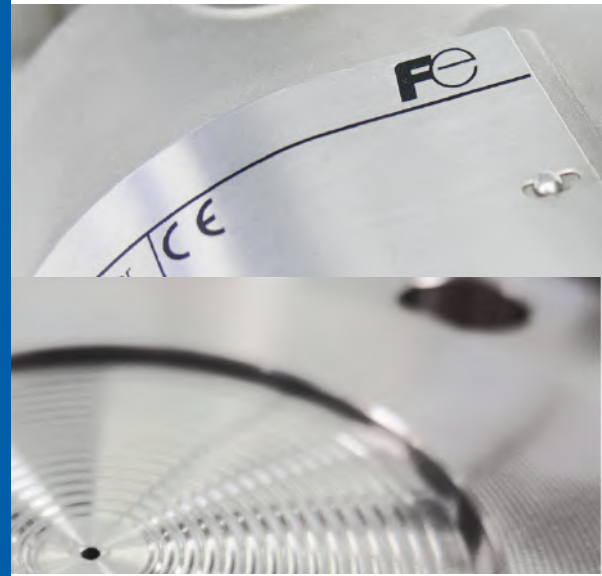
**Fuji Electric France S.A.S.**

# Fuji Electric France

French manufacturer of pressure transmitters innovative, reliable and efficient since 1995

Fuji Electric's mission is to provide nuclear operators and engineers with accurate pressure transmitters featuring high long-term stability and fast delivery times.

We supply differential, absolute and gauge pressure transmitters to nuclear power plants and nuclear research centres around the world.



## 6 Essential characteristics of a nuclear pressure transmitter



A nuclear pressure transmitter is manufactured using materials from rigorously selected suppliers, ensuring the high level of quality, traceability and qualification required.

### 1 - An indisputable quality approach and safety culture:

Control of manufacturing processes - Traceability of supplies  
Continuous training of teams - Technical support for customers

### 2 - Qualified life span:

Guaranteed level of performance and operability over time and even in the event of a serious accident

### 3 - Approved connectors:

1/4 turn quick disconnect electrical connector meeting the most demanding qualifications

### 4 - Seals adapted to the requirements:

PMUC certification - High tolerance to irradiation

### 5 - High performance and reliable electronics:

Smart, subjected to rigorous robustness tests or Analog, without any programmable digital components (irradiation, cybersecurity)

### 6 - Great diversity of process connections

Classic connections or remote seals:

Flanges - OD 3/8 tube to be welded - screw adapter - flushing rings  
Materials according to the process fluid nature





# Pressure transmitters

Measuring pressure, flow, level or density

- Differential, gauge and absolute pressure transmitters
- Hydrostatic level measurement
- Primary elements flow measurement
- Remote seal



## Pressure transmitter and level transmitter qualified K3A/1E & K3ad

Type FKC, FKG and type FKD, FKB remote diaphragm seal with capillaries

Fuji Electric's pressure transmitters contribute to the safety functions in the fuel building as well as the auxiliary and backup systems of the reactor building.

## Very low scale pressure transmitter

Type FKC\_11

Fuji Electric's pressure transmitters enable reliable and accurate low pressure measurements.

## Pressure transmitter and level transmitter

Type FKC and FKG and type FKD, FKB remote seals diaphragm with capillaries

Fuji Electric differential pressure transmitters are used to measure levels and to control the clogging of filters installed on the cooling water circuit and raw water (river or sea water).

## Options



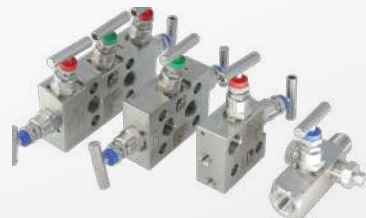
Removable electrical connectors



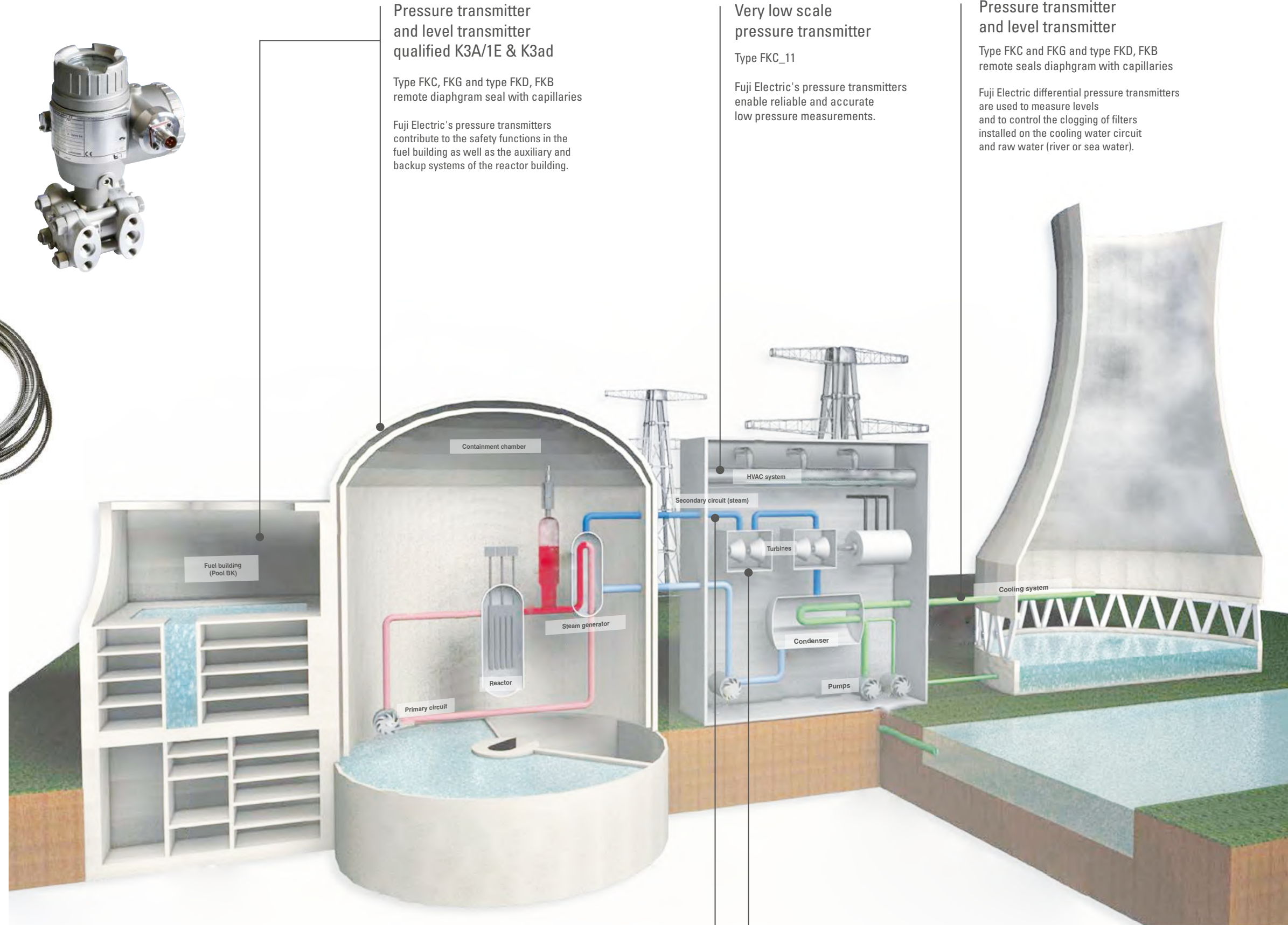
Local digital indicator



HP and LP inverter



Manifold - 1 to 5 valves



## Pressure and flow transmitters

Type FKC et FKG

Fuji Electric pressure and flow transmitters control the steam pressure and measure the flow rate..

# 9 reasons to require a “nuclear qualified” pressure transmitter for your projects

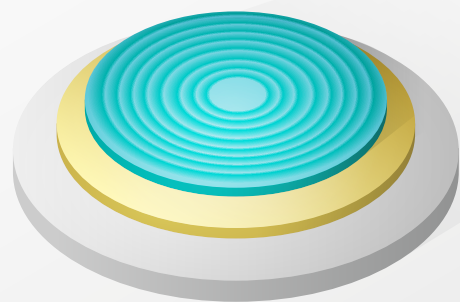
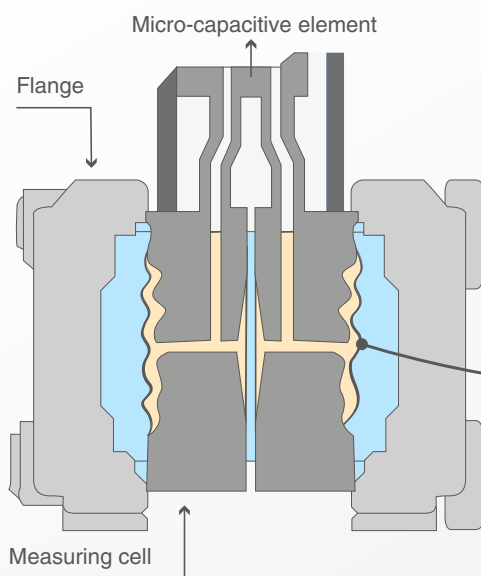
- Safety ratings
- RCC-E qualifications: NC, TAS, K3 or K3ad
- Ambient family & accidental thermodynamic profile
- I&C safety criteria
- Integrity or operability under seismic loads in accidental conditions
- Manufacturing traceability
- The conformity of the manufactured devices approved by quality standards
- Ensuring the provision of documentary deliverables
- Compliance with the project schedule

## Hydrogen pressure measurement

How to prevent hydrogen from penetrating the transmitter diaphragms?

Fuji Electric’s developed a unique hydro coating:

- Provides excellent protection against hydrogen permeation
- Minimises the generation of H<sup>+</sup> ions and electrons from the galvanic reaction
- Allows accurate measurement over time



Double coated diaphragm

Primary material

Gold

Ceramic





Fuji Electric France undertakes to set up an integrated management system based on continual improvement and in accordance with ISO 9001 and ISO 14 001 standards.

Fuji Electric France guarantees the quality and value of its products through compliance with rigorous standards.

## Accreditations & certifications



**Quality Certification: ISO 9001: 2015**  
Quality Management Systems  
(certificate N°1997/8402)



**Environmental Certification: ISO 14 001: 2015**  
Step-by-step Management System  
(certificate N°2014/59264)

**EDF qualification:** RCC-E éd. 2015 - NC, TAS, K3, K3ad

**NNSA certification:** HAF604 manufacturing and design

**FRAMATOME qualification:** QN100/QN200/QN300

**Explosives atmospheres:** Atex, IECEx, cCSAus

**Certification:** SIL2/3 according to IEC 61508 and IEC 61511

**Directives:** PED - **Marking :** CE

# Services

## An experienced Technicians Team

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 as well as in energy optimisation of your processes, reduction of operating risks and increase in the added value of your plant.

## The Fuji Electric team guarantees:

*Assistance*

*Commissioning*

*Maintenance*

*On-site calibration*

*Consultancy*

*Engineering Expertise*

*Reactivity*

*Availability*

*Training*

## Fuji Electric France

# Customer satisfaction first

- High reliability and products excellence
- Competitive delivery times
- Reactive and efficient service
- Tailored industry solutions

### Follow us, share and react to our news:



Fuji Electric France S.A.S



@FujiElectricFR

### Find us on our site Fuji Electric France :



[www.fujielectric.fr](http://www.fujielectric.fr)

# Radiation monitoring

Assure workers safety

Neutron survey meter  
Electronic personal dosimeters



# Flowmeter

Measure fluid flowrate

Ultrasonic flowmeters



# Gas analysis

Optimize combustion  
and control gas emissions

Zirconia oxygen gas analysers  
Non dispersive infrared gas analysers  
Continuous Emission Monitoring Systems (CEMS)  
In-situ laser gas analysers





## Fuji Electric's nuclear division offers measurement solutions for nuclear processes.

Nuclear power plants, research reactors, nuclear reactors for ships and submarines, nuclear fuel cycle management units, and nuclear power plant decommissioning operators use our measurement solutions to optimize the operation of their systems.

Our instruments are suitable for both new build and refurbishment of existing plants. We offer a complete range of instrumentation from pressure, level, flow, temperature, radiation measurement, and gas analysis.

Our measuring instruments are qualified and certified to guarantee the uninterrupted operation, safety and durability of your installations

Our know-how is based on technical expertise, cooperation and innovation developed with and for our customers.

Our instruments are designed, manufactured and qualified to meet the most demanding requirements. Our nuclear experts are your privileged contacts for solving the complex problems occurring in your specific applications.

Our quality service supports you in the supply of documentary deliverables to guarantee the traceability and conformity of the instruments. Enthusiastic, ambitious and attentive to your needs, we contribute to the creation of a sustainable society through our nuclear energy and environmental businesses.

## Key figures

### Fuji Electric Co., Ltd. Group

#### Four business segments

*Power electronics systems: for energy and for industry*  
*Electronic devices*  
*Power generation*  
*Food and beverage distribution*

Established in 1923

8 billion €  
turnover 2021  
(As for March, 2021)

27 790 employees

121 factories & sales agencies  
in 21 countries  
Products spread in 53 countries



### Fuji Electric France S.A.S.



Annual production capability  
30 000 pressure transmitters

27 million €  
turnover in 2021  
(As for March, 2021)

140 employees  
in 2 factories and 6 offices

50 EMEA countries  
service sales networks

