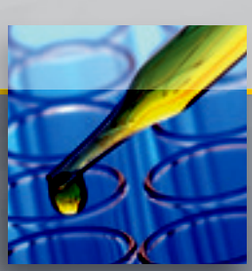
PYRO® CONTROLE
CHAUVIN ARNOUX GROUP

Chemicals - Petrochemicals

Temperature Sensors



Quality and Safety

of your temperature processes

Measuring your requirements

Pyrocontrole
Your Expert for Temperature Measurement

Positioned at the core of the requirements in the chemicals and petrochemicals sector, Pyrocontrole designs and develops sensors which match your operating specifications and can withstand the multiple constraints of your processes. With our focus on design quality, reliability and rugged construction, our equipment strictly complies with the regulatory standards enabling you to maintain your product quality while ensuring that your installations remain safe. Whether you need standard or custom-made equipment, we are used to handling the complexity of the situations facing you. We help to cut your maintenance spending while also reducing your energy costs.

Explosive environments, high pressures, severe operating constraints

We are organized to offer a range of products whose design, production and life cycle comply with the European ATEX and PED directives.

Quality and Safety

In compliance with your specifications and in strict application of the regulations (ATEX, PED, SIL), we undertake to meet even your most difficult requirements.

Made in France

The equipment is machined, assembled and checked in France by experienced, qualified teams to guarantee quality and reliability.

Pyrocontrole and its Export Department provide worldwide coverage backed by membership of the Chauvin Arnoux Group, with its ten subsidiaries spread across the world.

Our organization means we can support all your projects, including those abroad.

References

Total Extraction
Total Refining
Total Petrochemicals
Satorp Saudi Arabia
Rhodia
Solvay
Basf
Exxon
Polimeri
Butachimie
Bluestar Silicones
Aramco
Petroplus
Cezus
Adisseo
Toray
Foster Wheeler
Technip
Sofresid
Saipem
...

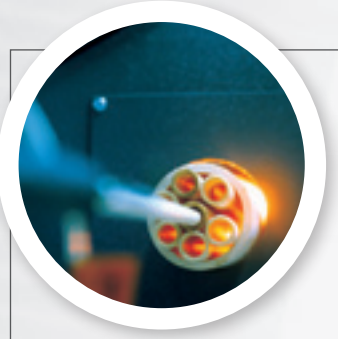
Qualification and Inspection

Our Quality Department handles the inspections and entry tests for the materials required to produce the temperature sensors as well as the checks and tests at the end of the manufacturing process, in accordance with the specific requirements stated in the order.

Welding can be carried out according to WPS Welding Procedure Specifications and WPQR Welding Procedure Qualification Records. The expertise of our welders is certified by WPQ (Welder Performance Qualification) by the French National Welding Institute (Institut National de Soudure).

We have integrated resources for this in our factory:

- COFRAC-accredited laboratory (Accreditation 2-1385 for Calibration by Comparison).
- Measurement bench for checking temperature sensor response times according to the NF EN 60751 standard.
- Calculation software tailored for the ASME PTC 19.3 standard.
- Specialized room equipped for penetrant testing of welds in compliance with the NF EN 571-1 standard.
- Bench equipped for hydrostatic tests.
- X-Ray facility for weld inspections and positioning of the measurement elements.



Tests and Validations

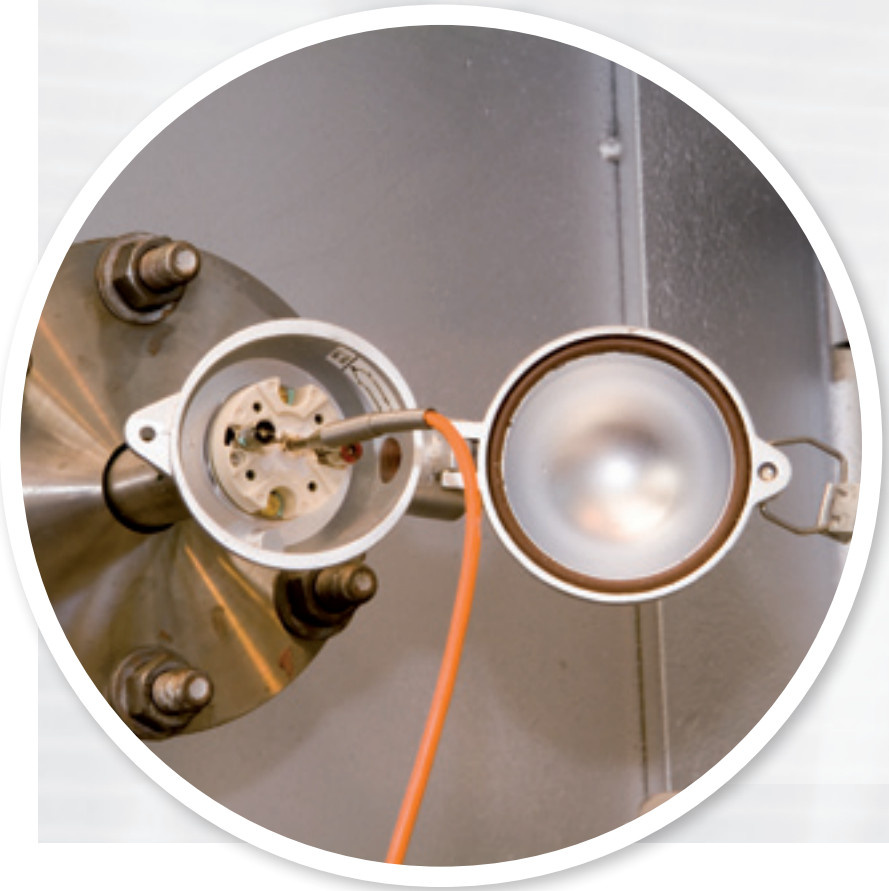
- Calibration in our Cofrac-accredited laboratory (no.2-1385, from -40 °C to 1550 °C)
- PED, provision of calculation spreadsheets

Non-destructive testing

- Penetrant testing of welds
- Helium tests
- Hydrostatic tests
- X-Ray inspection of welds

Traceability of materials and manufacturing methods

- CCPU material quality certificate
- PMI tests on sensors, welds and machined flanges
- WPS (Welding Procedure Specifications), WPQR (Welding Procedure Qualification Record), WPQ (Welder Performance Qualification)



In-situ calibration without affecting productivity, at the interval which you require

Depending on your quality requirements, to check and guarantee the right level of accuracy for your temperature measurements over time, Pyrocontrole proposes a methodology for in-situ verification without dismantling the sensors and without halting production. Simple, reliable and quick to set up, our temperature sensor assembly technology with in-situ verification offers multiple advantages in terms of energy saving, productivity, quality and traceability.

ATEX

Under the authority of a supervising expert in charge of all ATEX activities and in liaison with the approved organizations, Pyrocontrole guarantees:

- document management (technical files, main and ancillary drawings, workshop tests, operating manuals with the declaration of conformity accompanied by a work method)
- management of your order and the product including archiving for a ten-year period
- CE-type certificate of conformity granted by an approved organization such as the LCIE (Laboratoire Central des Industries Electriques – central laboratory of the electricity industry in France).
- Production Quality certificate awarded annually by INERIS (Institut National de l'Environnement Industriel et des Risques – French national institute responsible for industrial environments and hazards)
- conformity of the product delivered (ATEX marking of sensor, operating manual, CE declaration of conformity, traceability)

PED

In compliance with the European Pressurized Equipment Directive (PED), we handle design and manufacturing of your equipment according to your operating conditions: operating pressure, maximum operating pressure, speed, mass and temperature of the fluid.
We assess its conformity in accordance with the ISO 9000 standard:

- order review
- design review

And on request:

- drawings of the sensors
- ASME (American Society of Mechanical Engineers) spreadsheets
- material certificate
- PMI tests
- qualified welding according to a specified operating procedure
- verification of the welds by a penetrant test or X-ray test certificate
- ingress protection verification by a hydrostatic test or helium test certificate.

SIL

The SIL (Safety Integrity Level) requires certain essential information in order to define the preventive maintenance intervals necessary to keep the same level of safety. Our temperature sensors can be equipped with an SIL-approved HART (Highway Addressable Remote Transmitter). With its automatic fault detection system, our transmitter complies with the EN 61508 standard on functional safety of electrical, electronic or programmable electronic (E/E/PE) systems. Pyrocontrole includes a declaration of conformity (PYRO EL2232) and an explanatory technical manual with this equipment.

Qualified Temperature Sensors for Refineries

General-purpose temperature sensors

A range of multi-purpose, universal temperature assemblies for measuring flame, furnace or ambient temperatures.

Bimetallic or gas expansion thermometers

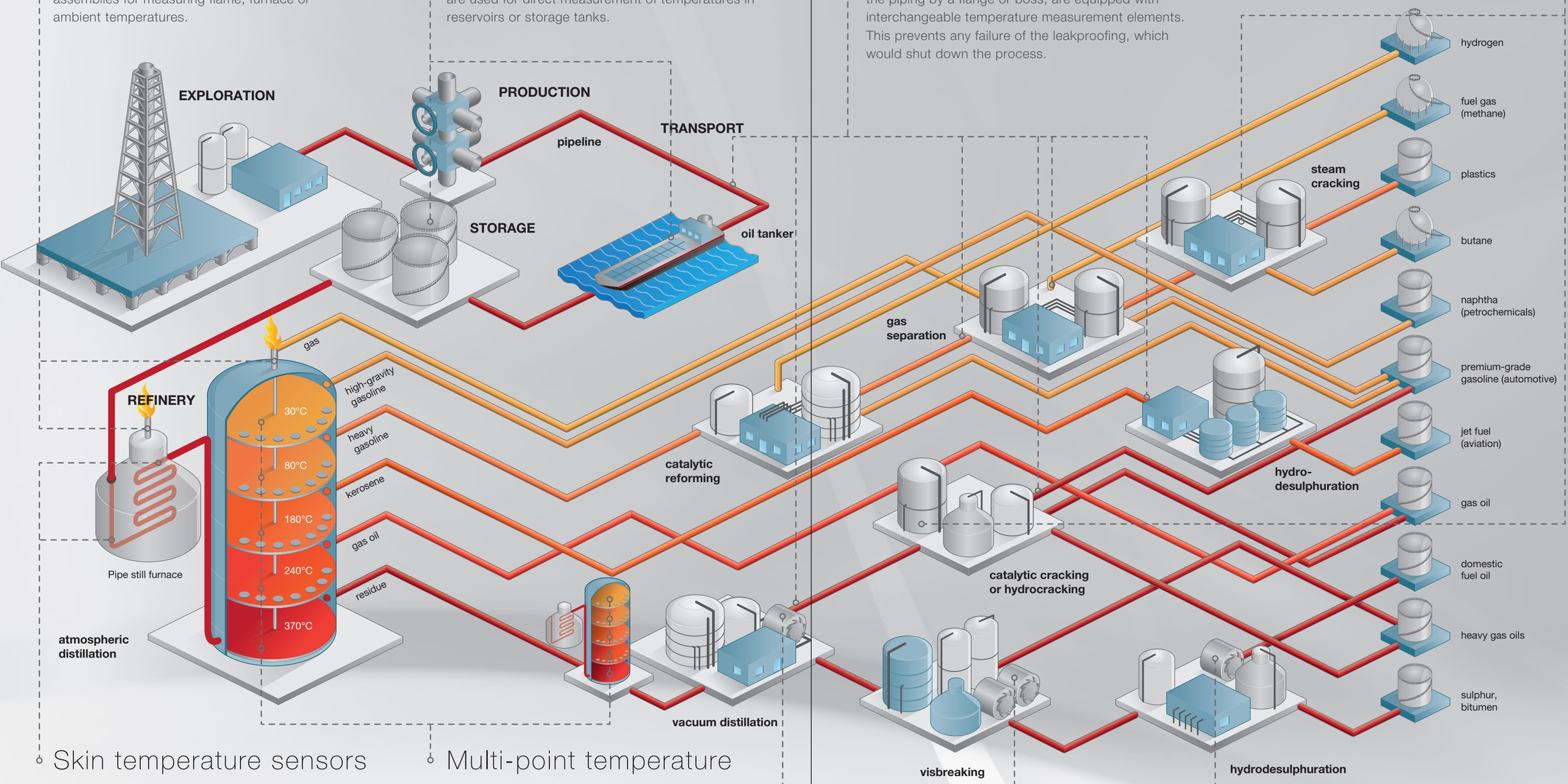
These thermometers, equipped with a dial or digital, are used for direct measurement of temperatures in reservoirs or storage tanks.

Process temperature sensors with thermowell

These sensors, comprising a thermowell fixed to the piping by a flange or boss, are equipped with interchangeable temperature measurement elements. This prevents any failure of the leakproofing, which would shut down the process.

High-pressure sensors

Our sensors are designed to measure high pressures up to 4,500 bars with a time constant of less than one second.



Skin temperature sensors

These contact surface-temperature sensors are non-intrusive and are equipped with exclusive technology allowing replacement of the sensitive part of a sensor without removing the knife-edge support, if necessary.

Multi-point temperature sensors for reactors

Our temperature sensors are installed inside reactors or furnaces for precise multi-temperature mapping.

Motor/pump-bearing temperature sensors

Essential safety equipment for preventing excessive temperatures in pumps and bearings.

Equipment

Process temperature sensors with thermowell

Multi-point temperature sensors for reactors

General-purpose temperature sensors

High-pressure sensors

Skin temperature sensors

Bimetallic or gas expansion thermometers

Bearing temperature sensors

A complete temperature measurement line

Pyrocontrole proposes a coherent set of equipment so that you can control the temperature line throughout the whole process:

- temperature sensors
- transducers and transmitters
- temperature controllers
- static relays and power controllers
- digital panel meters
- loggers.

Advice, assistance and after-sales service are available with all our products.

PYRO® CONTROLE
CHAUVIN ARNOUX GROUP

10 SUBSIDIARIES WORLDWIDE

GERMANY
Chauvin Arnoux GmbH
Straßburger Str. 34
77694 KEHL / RHEIN
Tel.: +49 07851 99 26-0
Fax: +49 07851 99 26-60
info@chauvin-arnoux.de
www.chauvin-arnoux.de

AUSTRIA
Chauvin Arnoux Ges.m.b.H
Slamastrasse 29/2/4
1230 WIEN
Tel.: +43 1 61 61 9 61
Fax: +43 1 61 61 9 61-61
vie-office@chauvin-arnoux.at
www.chauvin-arnoux.at

CHINA
Shanghai Pu-Jiang
Enerdis Instruments Co. Ltd
3 F, 3 rd Building
N° 381 Xiang De Road
200081 SHANGHAI
Tel.: +86 21 65 21 51 96
Fax: +86 21 65 21 61 07
info@chauvin-arnoux.com.cn

SPAIN
Chauvin Arnoux Ibérica SA
C/ Roger de Flor N°293
1a Planta
08025 BARCELONA
Tel.: +34 902 20 22 26
Fax: +34 93 459 14 43
comercial@chauvin-arnoux.es
www.chauvin-arnoux.es

ITALY
AMRA SpA
Via S. Ambrogio, 23
20846 MACHERIO (MB)
Tel.: +39 039 245 75 45
Fax: +39 039 481 561
info@amra-chauvin-arnoux.it
www.chauvin-arnoux.it

MIDDLE EAST
Chauvin Arnoux Middle East
PO Box 60-154
1241 2020 JAL EL DIB
(Beyrouth) - LIBAN
Tel.: +961 1 890 425
Fax: +961 1 890 424
camie@chauvin-arnoux.com
www.chauvin-arnoux.com

UNITED KINGDOM
Chauvin Arnoux Ltd
Unit 1 Nelson Ct, Flagship Sq
Shaw Cross Business Pk, Dewsbury
West Yorkshire - WF12 7TH
Tel.: +44 1924 460 494
Fax: +44 1924 455 328
info@chauvin-arnoux.co.uk
www.chauvin-arnoux.com

SCANDINAVIA
CA Mätsystem AB
Box 4501
SE 18304 Täby
Sweden
Tel.: +46 8 50 52 68 00
Fax: +46 8 50 52 68 10
info@camatsystem.com
www.camatsystem.com

SWITZERLAND
Chauvin Arnoux AG
Moosacherstrasse 15
8804 AU / ZH
Tel.: +41 44 727 75 55
Fax: +41 44 727 75 56
info@chauvin-arnoux.ch
www.chauvin-arnoux.ch

USA
Chauvin Arnoux Inc
d.b.a AEMC Instruments
200 Foxborough Blvd.
Foxborough - MA 02035
Tel.: +1 (508) 698-2115
Fax: +1 (508) 698-2118
sales@aemc.com
www.aemc.com

Your contact:

Alix Goyet
Thermal Applications Engineer

Pyrocontrole
6 bis, avenue du Docteur Schweitzer
69881 Meyzieu Cedex
FRANCE
Tel. : +33 4 72 14 15 45
Fax. : +33 4 72 14 15 41
mail : alix.goyet@chauvin-arnoux.com

The Chauvin Arnoux Group, with its seven brands (Chauvin Arnoux®, Metrix®, Multimetrix®, Enerdis®, Pyrocontrole®, AEMC® and AMRA®) and its service subsidiary Manumesure, is one of the European leaders in measurement, energy performance, industrial thermography and metrology.

906 211 295 - Ed. 1 - 06/2012 - Photos and documents non-contractual. - La Compagnie Créative - Images Fotolia.

FRANCE
Pyrocontrole
6 bis, av du Docteur Schweitzer
69881 MEYZIEU Cedex
Tel. : +33 4 72 14 15 55
Fax : +33 4 72 14 15 41
info@pyro-controle.tm.fr
www.pyro-controle.com

USA
Chauvin Arnoux Inc
d.b.a AEMC Instruments
200 Foxborough Blvd.
Foxborough - MA 02035
Tel. : +1 (508) 698-2115
Fax : +1 (508) 698-2118
sales@aemc.com
www.aemc.com

MIDDLE EAST
Chauvin Arnoux Middle East
P.O. BOX 60-154
1241 2020 JAL EL DIB - LEBANON
Tel : +961 1 890 425
Fax : +961 1 890 424
camie@chauvin-arnoux.com
www.chauvin-arnoux.com

CHAUVIN ARNOUX GROUP