AN EXPERT TEAM ATTENTIVE
TO YOUR REQUIREMENTS
IN **FLUID ENGINEERING,**
MEASUREMENT AND **CONTROL**

Deltafluid

MEASURING UP TO YOUR EXPECTATIONS

Summary

Editorial

YOU HAVE **SPECIFIC NEEDS**

Deltafluid specializes in the design and manufacture of flow measurement, temperature measurement and pressure regulation devices.

Historically located near to the biggest French gas reserve (Lacq – south-western France), the company has been established in the industries of Oil & Gas since the beginning of the seventies before opening to other markets (Chemical & Petrochemical, Power, Iron & Steel, Water, Food & Drinks, Paper, etc.).

Under the name of Deltafluid since the 2000's, we develop a comprehensive range of instrumentation devices oriented towards fluid measurement and control.

WE ARE **READY** TO MEET THEM

The recent takeover of Pipeline Engineering & Services allows us to offer a more complete range of services. We are now able to perform studies and provide technical advice for the construction and installation of pipings, pipelines and penstock pipes.

We wish to remain a small company, in which everyone plays a key role for customer service and satisfaction. You will always find a team you can rely on!

50 YEARS **OF EXPERTISE**

During all these years, you have praised our know-how and expertise. You have liked how closely we listen to your needs. You have appreciated our responsiveness and availability* in answering your demands and providing custom solutions tailored to suit your requirements.
We sincerely thank you for your trust and make every effort possible to continue to meet your requirements.

* source : supplier assessment

Yannick Lubet, Deltafluid founder

Ours commitments


Chemical & Petrochemical


Power


Iron & Steel


Oil & Gas

YOU HAVE
URGENT NEEDS

WE ARE **AVAILABLE**
AT ANY TIME TO ANSWER
TO YOU.

Our organization allows us to provide you with prompt answers and to meet your urgent needs.

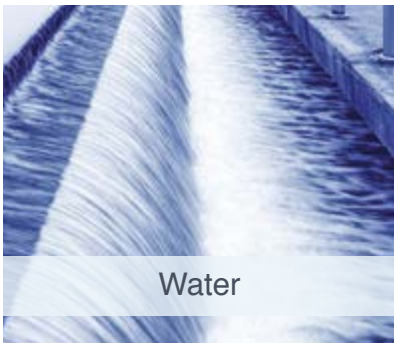
TAILOR-MADE
PRODUCTS AND SERVICES
ARE ESSENTIAL

REMAINING **FLEXIBLE**
IS THE FOUNDATION
OF OUR COMMITMENT.

We are able to offer you comprehensive and customized solutions that fit your applications.

CUSTOMIZED SOLUTIONS TO ANSWER **YOUR NEEDS**.


Food & Drinks


Water


Compressor


Glass

YOU ARE LOOKING FOR TECHNICAL **ADVICE** ON INSTRUMENTATION

OUR KNOW-HOW AND **EXPERTISE** ARE AT YOUR SERVICE.

Our experience associated with CFD and complex structure simulation's latest technologies allows us to give you clear and detailed responses.

PRODUCT **QUALITY** IS KEY

MEETING THIS **REQUIREMENT** IS OUR MAIN GOAL.

We build and implement a quality policy which ensures traceability and compliance with specifications from the time you order until delivery.

20 YEARS **OF TRUST**

Our partnership with Deltafluid has lasted for over 20 years. We particularly appreciate their responsiveness and the quality of their products manufactured in-house. In our day-to-day, it is essential to be able to rely on this qualified partner who is fully invested in each of our projects.

elneo

Stéphane Verniers & Paul-André Tenaerts

Product specialists - Instrumentation Department

Engineering office

YOUR APPLICATION NEEDS
EXPERIENCE AND ADVICE

2 ENGINEERING DEPARTMENTS
ARE AT YOUR SERVICE

The technical expertise of our engineers, developed on demanding projects, help them to adapt to all types of industrial environments in order to provide customers with solutions in terms of safety, reliability, accuracy and integration.

Engineering & Structure Department

Pipings, pipelines and penstock pipes

Department of **Fluid Mechanics**

Flow measurement
Flow limitation or pressure regulation
Temperature measurement

Engineering office

Engineering & Structure Department

WEATHER CONDITIONS
(snow, wind)

ENVIRONMENTAL CONDITIONS
(soil quality, earthquake risk)

DESIGN, PRESSURE, TEMPERATURE CONDITIONS

FLEXIBILITY CALCULATIONS ACCORDING TO CODETI, ASME B31.3, ISO 14692 STANDARDS
(loads on anchoring and support, expansion, mechanical strains, flange analysis)

FATIGUE ANALYSIS

PRESSURE LOSS CALCULATIONS

FINITE ELEMENT ANALYSIS (FEA)

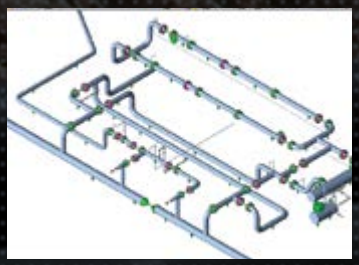
PIPINGS SIZING
(fittings, tappings)

CUSTOMER DATA

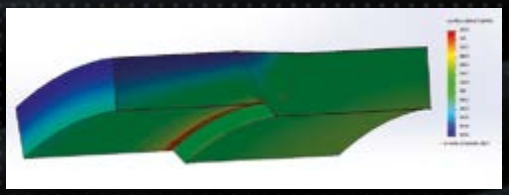
STUDIES & DELIVERABLES

Calculations & CFD simulations

Calculation of all the parameters related to your installation (flexibility, pressure loss, support, etc.).
Verification of all components or welded assemblies by finite element analysis.



Flexibility calculations and switching station simulation



Validation of a welding misalignement by finite element analysis

PIPINGS, PIPELINES & PENSTOCK PIPES

PRESSURE EQUIPMENT
CALCULATIONS
ACCORDING TO CODAP

CIVIL ENGINEERING
CALCULATIONS
FOR SUPPORT

STRUCTURAL
CALCULATIONS

DRAWINGS :
isometric,
skid,
piping,
metallic structure

CIVIL ENGINEERING
DRAWINGS :
formwork,
frame

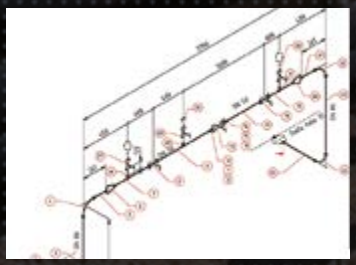
ON-SITE
SUPERVISION

INSTALLATION
EXPERTISE

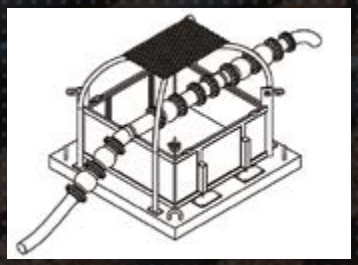
ON-SITE SERVICES

Drawings & Models

Piping drawings, skid or metal frame drawings for onshore and offshore applications.



Isometric drawing of a switching station



Subsea Pipe Line End Terminal for fuel unloading

On-site supervision

Quality control of work executed and security check for personnel.

Laying of pipe in a sea inlet towards an oil deposit

Engineering office

Department of Fluid Mechanics

PRESSURE AND TEMPERATURE CONDITIONS

VISCOSITY, ReD

INSTALLATION CONSTRAINTS

ABRASIVE, CORROSIVE FLUID

PRECISION

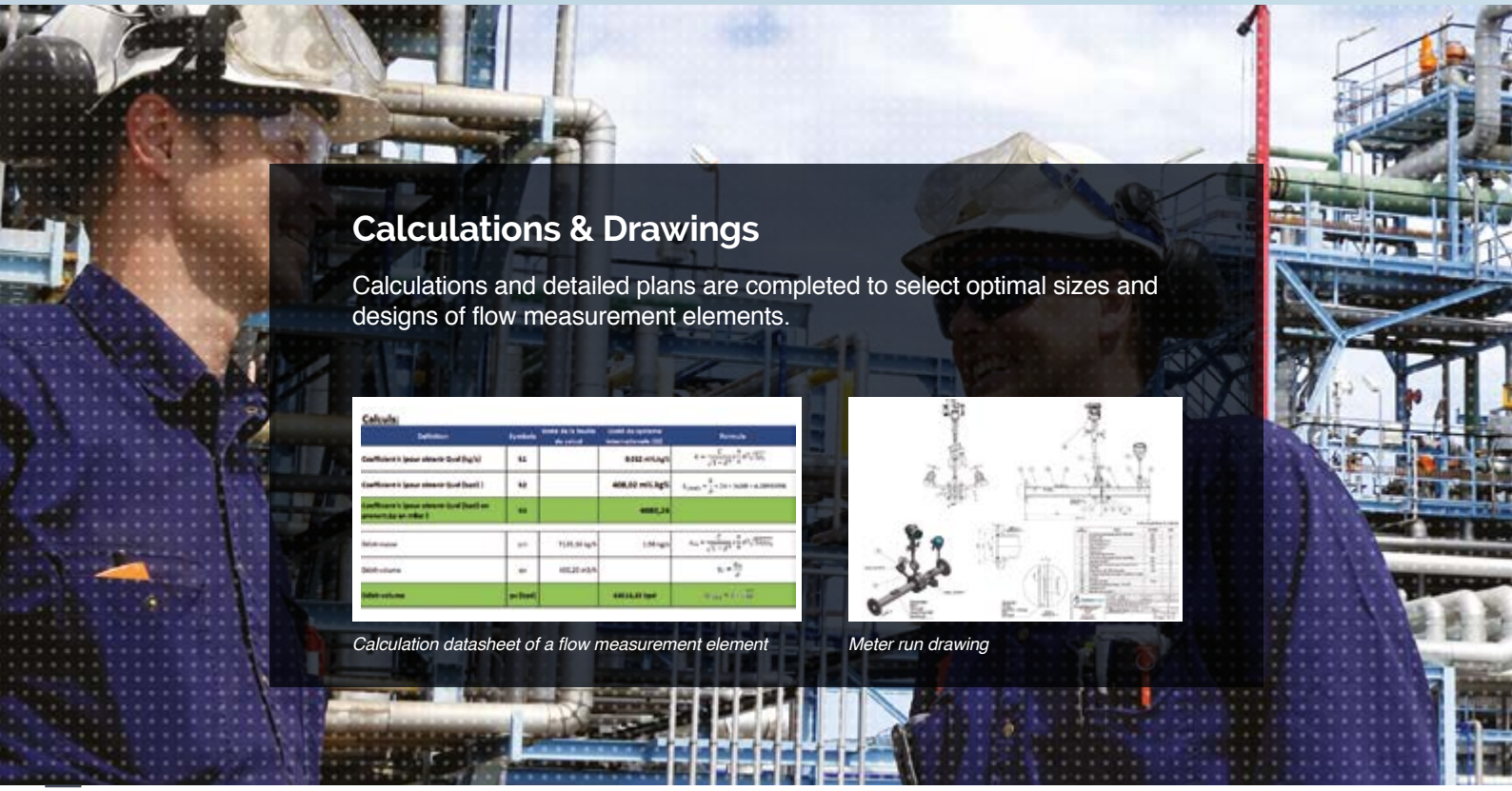
EXTENDED FLOW RANGE

CHOICE OF **TECHNOLOGY**

MATERIAL SELECTION

CUSTOMER DATA

STUDIES & DELIVERABLES



Calculations & Drawings

Calculations and detailed plans are completed to select optimal sizes and designs of flow measurement elements.

Calculation datasheet of a flow measurement element

Meter run drawing

FLOW MEASUREMENT

CALCULATIONS ACCORDING TO **ISO 5167**, ISO/TR 15377, ASME MFC-3M, R.W. MILLER, ASME PTC 19.5 STANDARDS : pressure loss ΔP, orifice diameter d, flow Qm or Qv

CALCULATIONS ACCORDING TO CODETI, CODAP, ASME **CONSTRUCTION CODES**

DENSITY CORRECTION

MEASUREMENT ASSEMBLY **MODELING** (skids)

DRAWINGS, INSTALLATION DIAGRAMS, DATA SHEETS

COMMISSIONING **SUPPORT** SERVICE

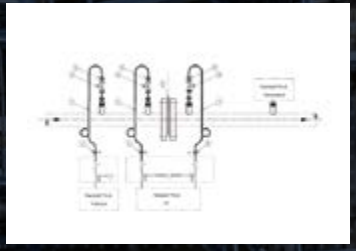
INSTALLATION **EXPERTISE**

PREVENTIVE **MAINTENANCE**

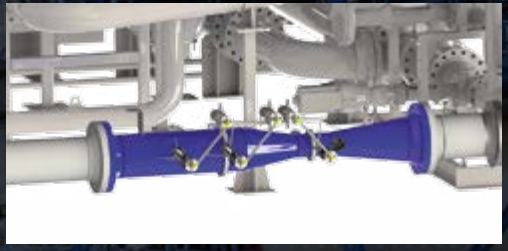
ON-SITE SERVICES

Schemas & Models

Detailed blueprints for complex systems can be drawn to ensure the correct integration of the flow measurement system in your installation.



Schematic layout of a measurement assembly



Modeling of a venturi tube in a skid

Engineering office

Department of Fluid Mechanics

OPERATING CONDITIONS
(pressure, temperature, flow)

INSTALLATION CONSTRAINTS

ABRASIVE, CORROSIVE FLUID

MAXIMUM NOISE LEVEL

OPERATING MODE
(continuous, intermittent)

CAVITATION

CRITICAL FLOW / SONIC VELOCITY

SOUND LEVEL (NOISE)

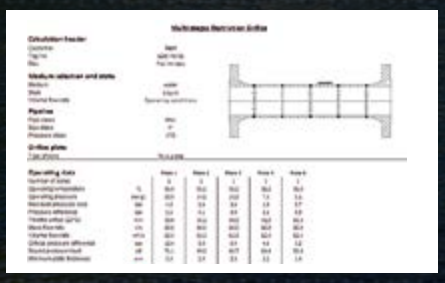
CHANGE OF STATE OF THE FLUID / THERMODYNAMIC CALCULATIONS

CUSTOMER DATA

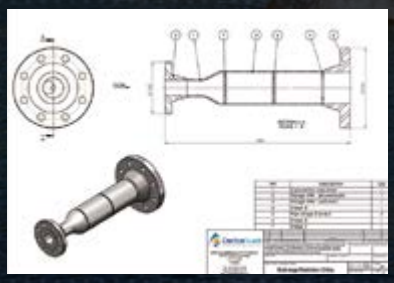
STUDIES & DELIVERABLES

Calculations & Drawings

Specific calculations are performed and drawings are made to optimise the restriction orifice design.



Restriction orifice calculation datasheet



Multi-stage restriction orifice drawing

FLOW LIMITATION AND PRESSURE REGULATION

FLOW **SIMULATION** (CFD)

DESIGN **OPTIMISATION**

MATERIAL SELECTION

SIZING ACCORDING TO CODETI, CODAP, ASME **CONSTRUCTION CODES**

CALCULATION DATASHEETS, DRAWINGS

COMMISSIONING **SUPPORT** SERVICE

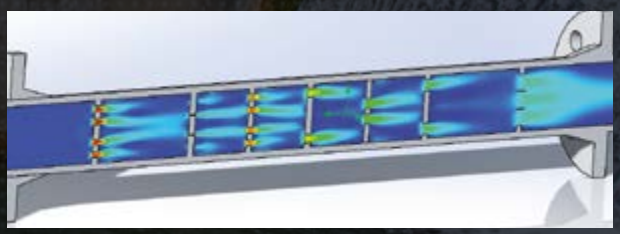
INSTALLATION **EXPERTISE**

PREVENTIVE **MAINTENANCE**

ON-SITE SERVICES

Simulations

Single- or multi-stage restriction orifice simulations are sometimes essential to visualise critical flow situations and to confirm the correctness of the analytic calculations.



Fluid velocity in a multi-stage restriction orifice

FEA calculation of the single-stage restriction orifice mechanical strength

Engineering office

Department of Fluid Mechanics

OPERATING CONDITIONS
(velocity, pressure, temperature)

INSTALLATION CONSTRAINTS

TEMPERATURE RANGE

PRECISION, RESPONSIVENESS

CLASSIFICATION OF THE INSTALLATION AREA

CHOICE OF **TECHNOLOGY**

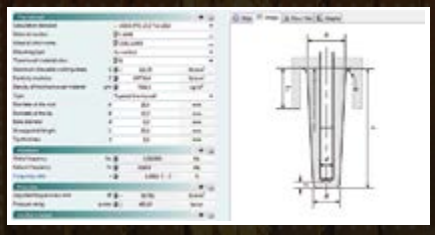
HEAT EXCHANGE **SIMULATION**
(internal and external flows)

CUSTOMER DATA

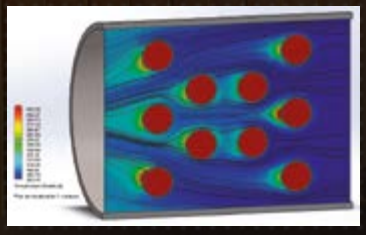
STUDIES & DELIVERABLES

Calculations & Simulations

Calculations are performed to ensure mechanical stability of the thermowell depending on process parameters. Simulation can assess the thermal behaviour of fluid and materials.



Thermowell calculations according to ASME PTC 19.3-TW



Exchanger temperature simulation

TEMPERATURE MEASUREMENT

EXAMINATION OF THE THERMOWELL **MECHANICAL STRENGTH** ACCORDING TO ASME PTC 19.3 TW

MATERIAL **SELECTION**

CALCULATION DATASHEETS, DRAWINGS, DIAGRAMS

COMMISSIONING **SUPPORT** SERVICE

INSTALLATION **EXPERTISE**

PREVENTIVE **MAINTENANCE**

ON-SITE SERVICES

Drawings

2- and 3-dimensional drawings are made for the customer to approve the product design and its integration in the whole system.

Thermowell drawing

Temperature sensor drawing

Manufacturing

Turning

Milling

Drilling

YOU HAVE NEEDS FOR **MACHINED PARTS AND MECHANICAL WELDED ASSEMBLIES**

WE HAVE STATE-OF-THE-ART AND FLEXIBLE PRODUCTION FACILITIES.

MECHANICAL **WELDED ASSEMBLIES**

- According to CODAP, CODETI, ASME, RCCM construction codes
- ARC, TIG, MIG welding

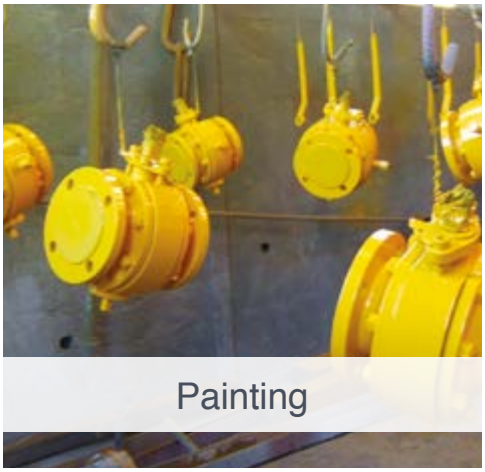
MACHINED PARTS

- Single part production
- Small or medium size batches
- Large-dimension machining ability (2.4 m diameter, 5m length)

MATERIALS carbon steel, stainless steel, cast iron, inconel, duplex, super-duplex, titanium, ceramics, plastic...

Honing

Welding



Painting

Hydrostatic test

INSPECTION AND NON-DESTRUCTIVE TESTS

We can perform non-destructive tests on each machined or welded part we produce, in compliance with customer specifications : PMI, dye-penetration, X-ray, ultrasound, hydrostatic tests, etc.

Measuring arm

VISUAL AND DIMENSIONAL INSPECTION

A systematic visual and dimensional inspection is performed in accordance with the approved drawing. Our test devices (3-dimensional measuring arm, callipers, measuring column, slip gauges, roughness meter) are calibrated periodically by a metrology laboratory.

MARKING, TRACEABILITY

Data plate

CALIBRATION

Our devices are manufactured according to international standards which guarantee high-quality measurements. For non standard applications, calibration of the device can be performed by a certified body.

Standard flowmeter

Deltafluid

MEASURING UP TO YOUR EXPECTATIONS

Partner of your worldwide projects

They rely on us

Air Liquide · suez · GE · VINCI ENERGIES · satorp · SAIPEM · amec foster wheeler · GASCO · ExxonMobil · TOTAL · ArcelorMittal · TechnipFMC

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ISO 9001
BUREAU VERITAS Certification

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