Rototherm™

Instrumentation Solutions

| Temperature | Pressure | Density | Level | Flow |

INDEX

About Us

Heritage & Experience 06

Served Industries 07

Mechanical & Electronic Recorders

Circular Chart Recorders 11

Flow Measurement & Restriction

Flow Restriction 13

DP Flow Measurement 14

Flow Applications / Projects 15

Level & Density Measurement

Level Measurement 17

In-Line Measurement 20

Beverage Industry Specific Products 21

Temperature Assemblies

Probes 23

Thermowells 24

Temperature Assemblies with Thermowells 25

Temperature Assemblies without Thermowells 25

Transmitters & Connection Heads 26

RTD Elements & Slot RTDs 27

Custom Designs 27

Switches & Manifolds

Pressure Switches 29

Temperature Switches 30

Electronic Switches & Transmitters 30

Manifolds 31

Linear & Rotary Positioners 32

Flow Regulators 32

Pneumatic Solutions 33

Float Switches & Air Horns 33

Temperature & Pressure Gauges

Defence Standard Gauges 35

Process Gauges 35

Digital Pressure Gauges 35

Differential Pressure Gauges 36

Accessories 36

Filled System Thermometers 36

Bi-metallic Thermometers 37

Digital Thermometers 37

Digitron Products

Food Processing & Catering 39

HVAC & Industrial 41

Data Loggers 42

HACCP: Food Safety 43

Services

Instrument Repairs and Modification 44

Calibration & Commissioning 45

Training Courses 45

Partnerships

Loma Systems/Lock Inspection Partnership 46

OUR MISSION

"Our mission is to provide world class customer service, giving our customers the right solutions for their applications in the fastest possible way, delivered through a simple and lean operation, and maintained by continuous development of our employees' skills and knowledge."

Rototherm™

Rototherm HNL

Rototherm Canongate Technology

BentleyInstruments part of Rototherm Group

RTDproducts part of Rototherm Group

Digitron part of Rototherm Group

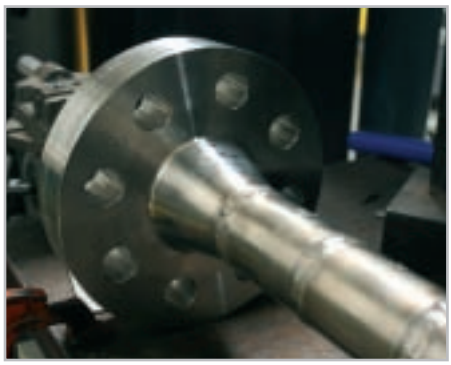
Rototherm™

Excellence the World can Measure

Rototherm Group is a global leader in providing process instrumentation solutions to a variety of industries including oil & gas, energy, defence, food, beverage, water, transport and pharmaceutical.

With over 170 years of experience in process measurement, we understand that a small change in measurement accuracy can have a big impact on profitability. That's why Rototherm Group is committed to helping our customers measure and control efficiently and accurately.

The Rototherm name is synonymous with quality, industry expertise and innovation.
Our understanding of your process and application ensures that we are able to design and provide a solution that will work in any area of Temperature, Flow, Pressure, Level, Density and Recording & Control.



Heritage & Experience

World's first Steam Pressure Gauge designed by Sydney Smith in 1847

Rototherm's heritage dates back to the 1840s with the invention of the steam pressure gauge by Sydney Smith Dennis.

The first bi-metallic thermometer was invented by the company in the early 1900s. This basic design still reigns in many mechanical temperature measurement applications today.

Rototherm Group has grown both organically and through strategic acquisitions and now supplies measurement and control solutions to customers in over 90 countries around the world. At the core of everything we do is exceptional customer service. We design our products, processes and training to ensure we provide an excellent and consistent service.

We are an ISO 9001 certified, privately owned advanced manufacturing company. The global success of our product lines is due to the commitment, expertise and customer communication of our team.
Rototherm Group employs Lean Principles throughout its manufacturing sites and operations, and our employees are all trained in Lean Principles, enabling us to provide products of the highest quality on time and cost effectively.

Served Industries

Rototherm Group supplies the following products to the industries below:

Oil & Gas
Mechanical & Electronic Recorders (p.10), Orifice Plates/Multi Stages (p.12), Canongate Technology Products (p.16), Temperature Assemblies (p.22), HNL Switches & Minifolds (p.28) and Pressure & Temperature Gauges (p.34)

Heat Treatment
Mechanical & Electronic Recorders (p.10), Temperature Assemblies (p.22), HNL Switches & Minifolds (p.28) and Pressure & Temperature Gauges (p.34)

Power Generation
Mechanical & Electronic Recorders (p.10), Orifice Plates/Multi Stages (p.12), Temperature Assemblies (p.22), HNL Switches & Minifolds (p.28) and Pressure & Temperature Gauges (p.34)

Food & Beverage
Mechanical & Electronic Recorders (p.10), Orifice Plates/Multi Stages (p.12), Canongate Technology Products (p.16), Temperature Assemblies (p.22), Pressure & Temperature Gauges (p.34) and Digitron Products (p.38)

Waste/Water
Mechanical & Electronic Recorders (p.10), Orifice Plates/Multi Stages (p.12), HNL Switches & Minifolds (p.28) and Pressure & Temperature Gauges (p.34)

Defence
Pressure & Temperature Gauges (p.34) according to Def-Stan 66-2 Approval

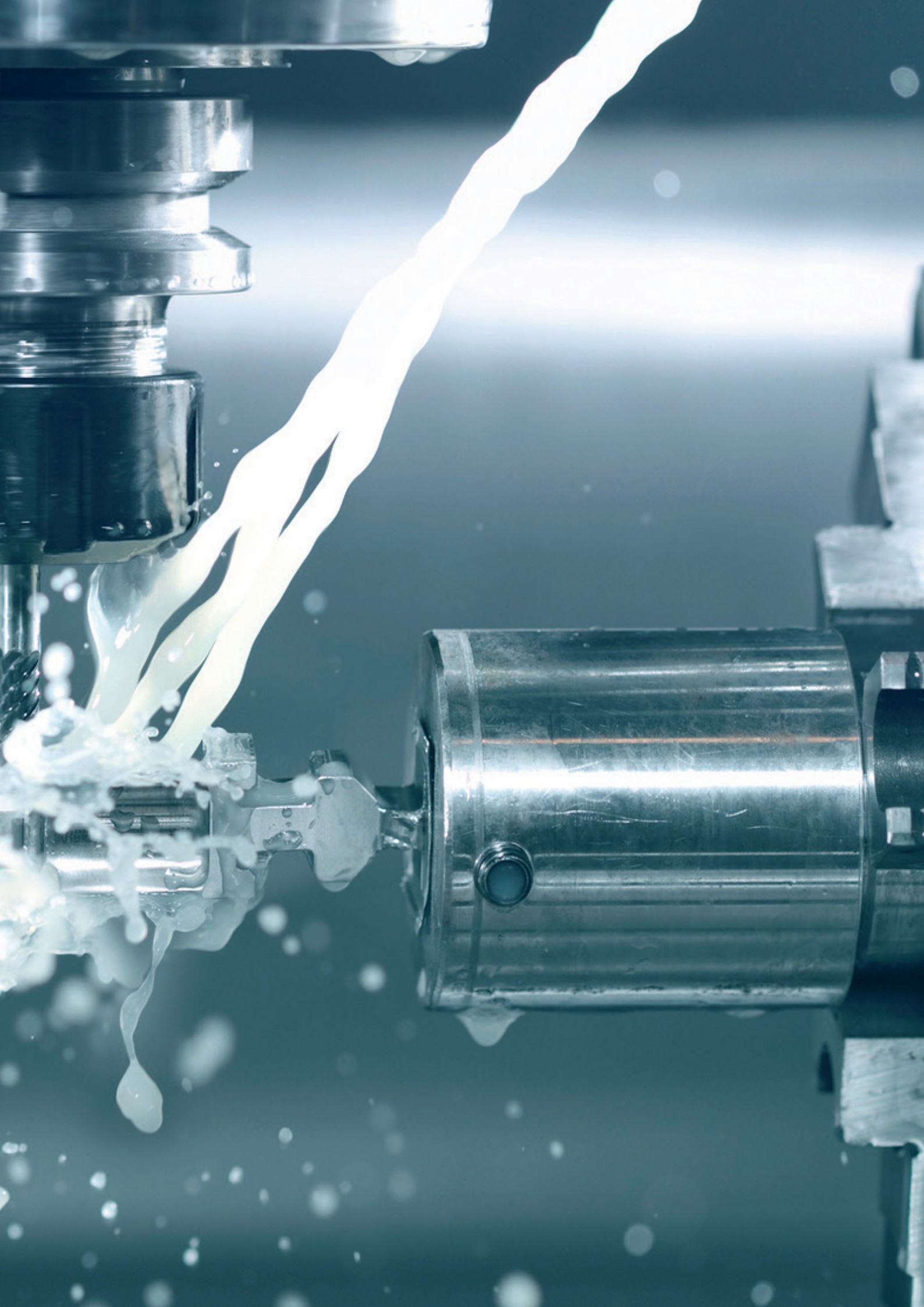
Refining & Petrochemical
Mechanical & Electronic Recorders (p.10), Canongate Technology Products (p.16), Temperature Assemblies (p.22), HNL Switches & Minifolds (p.28) and Pressure & Temperature Gauges (p.34)

Transport
Canongate Technology Products (p.16) and Digitron Products (p.38)

Pharmaceutical & Medical
Canongate Technology Products (p.16), Temperature Assemblies (p.22) and Loma Systems/Lock Inspection: Metal Detection, Checkweighing and X-Ray Systems (p.45)

HVAC
Mechanical & Electronic Recorders (p.10), Temperature Assemblies (p.22), Pressure & Temperature Gauges (p.34) and Digitron Products (p.38)

Aerospace
Pressure & Temperature Gauges (p.34)



Mechanical & Electronic Recorders

"Rototherm has an unparalleled reputation and heritage within recording and control solutions, both with mechanical and electronic devices. We continue to invest and develop our products to ensure that our customers have the information and control they require."

Talk to the experts…

- Leading manufacturer and supplier of process recorders, mechanical and electronic
- Product design and installation expertise
- Presence in over 90 countries
- Wide ranges for pressure, temperature & flow measurement
- Interchangeable parts/accessories with other manufacturer's recorders
- Easy installation and maintenance
- Durability for all types of environments: From Saudi Arabian deserts to jungles in Malaysia

Industries:

- Oil & Gas
- Refining
- Petrochemical
- Food & Dairy
- Plastics
- Textile
- HVAC

Applications:

Temperature, pressure, flow & humidity monitoring for all processes including:

- Heat Treatment
- Gas Transmission/Distribution
- Industrial Ovens/Furnaces
- Pharmaceutical Process Lines
- Dairy Pasteurisation
- Hydrostatic Pressure Testing

Circular Chart Recorders

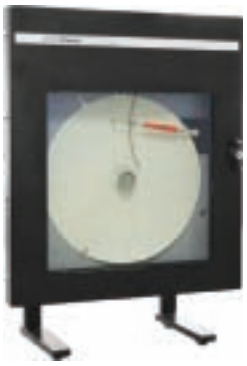
Mechanical Recorder (12”)

Clearscan

- Any Combination of Temperature, Pressure and Flow: 1, 2 or 3 pen
- 1% measurement accuracy
- 12 inch chart sizes
- Panel, wall, pipe mounting or portable options available
- Battery or mechanical chart drive
- Very robust and proven design
- Light weight construction (<10kg)
- Standard Steel Epoxy coated case or Stainless Steel case available for harsh environments
- Simple installation and maintenance

Mechanical Recorder (9”)

RPO/RTO



- Any combination of pressure and temperature recording: 1,2 or 3 pen
- Small tough compact Steel Epoxy coated case
- 1% measurement accuracy
- 9 inch chart sizes
- Panel, wall and pipe mounting or portable options available
- Battery or mechanical chart drive
- Very robust and proven design
- Low cost solution for chart recording

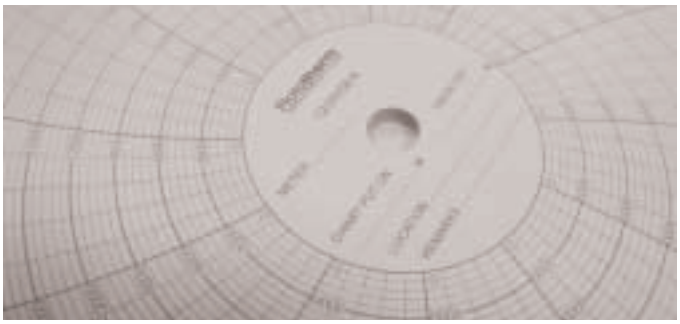
Electronic Recorder

Sentinel

- Any Combination of Temperature, Pressure, Flow and Humidity: 1, 2 or 3 pen
- IP66 construction
- Panel or surface mounting
- Configurable via front panel keypad
- 0.1% measurement accuracy
- Weight: 7 kg (Single Pen), 7.7 kg (3 pens)
- Alarms available
- Steel case
- Transmitter model SME162 required for humidity measurement

Pens, Charts & Accessories

For Rototherm Chart Recorders



A complete range of charts, pens and accessories suitable for all Rototherm recorders are kept in stock, many of our accessories are interchangeable with other manufacturer’s recorders.

Flow Measurement & Restriction

"Rototherm has experience developed over 40 years in the design and manufacture of DP FLOW devices. Our facilities are tailored to meet the highest standards required across the energy industry"

Talk to the experts…

- Over 40 years of specialist experience endorsed by an extensive reference list of projects for the key industry players
- Wide range of tailored solutions in standard and exotic materials
- Fully traceable certification for high quality materials, testing and inspection
- Extensive documentation packages
- Highly professional project management
- Fast track delivery to meet production requirements
- Manufacture according to EN ISO 5167 and AGA 3 (American Gas Association)
- Compliance, where applicable, with the European Pressure Equipment Directive (PED) and CE mark

Industries:

- Oil & Gas
- Chemical
- Pharmaceutical
- Nuclear
- Coal Fired Power Stations
- LNG

Applications:

- Offshore Platforms
- Gas blow down
- Water recycle lines
- Cooling wastewater
- Pipeline Flow Measurement
- Restriction Control

Flow Restriction

Restriction Orifice Plates

ROs

- Most common and widely used differential pressure producer
- Suitable for a wide range of flow restriction measurement applications in line sizes of 50mm and above
- Wide range of materials including exotics such as monel, hastelloy, as well as ceramic
- Orifice sizing on request
- Proven technology
- Range of Orifice Types
  - Concentric Square Edge
  - Conical Entrance
  - Quarter Circle
  - Segmental
  - Eccentric

Multi-Stage & Multi-Hole Restriction Orifice Assemblies

MSROs

Flanged assembly consisting of a series of orifice plates to produce a specified reduction in line pressure or to create a critical flow, giving controlled flow rate regardless of changes in downstream conditions. In-house expertise covers all aspects of design and manufacture associate with restriction of pressure for control purposes.

Flow Restriction Benefits:

- Cavitation Elimination
- Preventing flashing in liquid flows
- Choked flow in gases
- Noise/Vibration Reduction
- Permanent Pressure Reduction
- Feed & Vent Flow
- Pressure drop
- Preventing cavitation and flashing in liquid flows
- Choked flow in gases
- Excessive noise/ vibration

Project Management & Testing Capabilities:

Rototherm team is experienced and set-up to handle flow based projects. Our large team of project engineers handle all aspects of project management, design, documentation, testing and communications with our customers to allow for projects to be delivered 100% to scope of supply and on-time. We pride ourselves on meeting this.

Our testing services typically include:

- Hydrostatic Pressure Test
- X-Ray (Welds)
- PMI
- Dye Penetrant Inspection
- Ultrasonic examination
- Magnetic Particle Inspection
- Charpy Impact Testing
- Hardness Survey
- Independent 3rd Party Inspection

DP Flow Measurement

Orifice Carrier Assemblies

Orifice Carrier Assemblies

- Orifice carriers are supplied for applications where existing pipework has no facilities for tappings
- Wide range of materials
- Suitable for 1” lines and above
- Range of Carrier Types:
  - Single Ring, Corner Tappings
  - Double Ring, Flange Tappings
  - Double Ring, Corner Tappings
  - Double Ring, Annular Chambers
- Orifice sizing on request

Orifice / Flange Union

Orifice Assemblies

- Orifice flange assemblies consist of a pair of flanges, studs, nuts, gaskets, jacking screws and plugs (where requested)
- Orifice flanges ensure best flow measurement accuracy with an economic solution
- Wide range of materials, including ASTM A105N Carbon Steel, ASTM A350 LF2 Carbon Steel, ASTM A182 F316L Stainless Steel as standards
- Exotic materials used depending on application
- Ratings from 300 lb to 2500 lb
- Sizes from 1” Nominal Bore
- Corner Tapping Versions Available

Meter Runs

Orifice Flange Meter Run

- Typically consisting of a factory assembled section of pipe with an orifice plate mounted between two flanges near the bottom third of the run, terminated with a flange at each end connected to the process
- Can be supplied with temperature pockets if required
- Building the assembly in the factory allows us to control all the variables which can lead to inaccuracies which can arise if the system is assembled by untrained personnel on site

Venturi

Classical Venturi Tubes

- Classical Venturi Tubes - used on applications where a low permanent pressure loss is required
- Can be used on clean and dirty fluid in line sizes from 1” to 60”
- Calculation, design and manufacture to BS EN ISO 5167:1
- Fabricated from plate or machined from bar/ forgings
- Flanged or weld-in construction
- Wide range of material grades
- Calibration service on request

Flow Nozzle

Flow Nozzle

- If high temperatures and velocities are present, the flow nozzle may provide a better solution than an orifice plate
- Its construction makes it substantially more rigid and flow coefficient data at high Reynolds number is better documented
- The inlet is contoured, and may be either radius entrance (ISA1932) or elliptical entrance (ASME long radius)
- The flow nozzle has about 65% greater flow capacity than an orifice with the same diameter
- Flow nozzles are also suitable for erosive fluids where the sharp edge of an orifice plate could quickly deteriorate

Flow Applications / Projects

Multi-Stage Restriction Orifice (RO) Assembly for High Pressure Gas Blowdown

Rototherm has a significant offshore installation base across the North Sea, Middle East, South East Asia and Australia, working with key industry players, such as Shell, ExxonMobil and BP, demonstrating success in our designs and meeting the necessary process requirements. We ensure that the mechanical integrity of our systems are never compromised, which is why we maintain 100% record of successful operation and, in many occasions, this results in our team being brought in to replace malfunctioning RO designs that can lead to significant safety and cost implications for the user.

Multi-Stage ROs are typically required to reduce pressure down to atmospheric. This solution is increasingly common on offshore platforms where higher pressure drops and flow rates exist and control valves are expensive to install and maintain. For example, a multistage restriction orifice assembly is installed at the downstream of blow down valves. When blowdown valve opens to release the high pressure on its upstream, the RO at its downstream ensures that the flow is not excessive to overload the flare header. Usually the pressure drop in a blowdown circuit across an RO can be very high.

When designing a solution, Rototherm engineers always consider four critical factors:

- High pressure drop – ensuring that the required pressure drop is achieved with proven design
- Noise – achieving the lowest noise level (<85dBA according to international noise standards)
- Joule-Thompson Effect – considering the change in temperature across the assembly and subsequent impact on bore size and plate thickness
- Length – meeting the process requirements in the shortest overall length, especially when space is tight and limited

Multi-Hole Restriction Orifice (RO) Assembly for Cooling Water Recycling Lines

Multi-hole ROs are typically used in LNG terminals, LNG producing plants, chemicals, petrochemicals and refineries. This type of solution is a cost effective method for managing pressure within the water system. For example, a multi-hole restriction orifice assembly is used to manage a constant recirculation flow.

The recirculation ensures that cavitation and starvation cannot happen in the pump, as well as ensuring noise levels are kept to a safe level (<85dBA).

Rototherm designs' also account for the impact of Acoustic Induced Vibration (AIV), which can cause significant damage to surrounding equipment if such resonance levels are reached as a result of the process flow. Material selection and manufacturing capability is another critical factor to ensure the long-term success of a solution in the field. Our engineers always work in depth with process design teams to ensure successful solutions can be implemented.

Level & Density Measurement

"Our unique non-invasive ultrasonic technology has been developed and built upon over the last 35 years, and is proven throughout the world across a vast number of installations"

Talk to the experts…

- Ultrasonic technology with wide ranging and unique applications for several industries
- Heritage deeply rooted in the brewing and distilling industry, with an illustrious reputation across the Scotch Distilleries market
- The world's only 100% non-invasive liquid level measurement:
  - Zero modifications to your vessels
  - No downtime for installation and commissioning

Industries & Applications:

Beverage:
- CO_2 control/monitoring in beer & sparkling wine
- Alcohol strength measurement
- Beer, water, spirit vat level measurement

Petrochemical:
- Chemical treatment process automation
- Acid bath strength, level and batching
- Chemical manufacture/production

Oil & Gas:
- Fuel storage tank level measurement (LPG, gasoline, diesel, kerosene…)
- Liquid level/interface detection in oil processing

Transport:
- Truck cargo monitoring
- Offloading fuel identification systems
- Fuel tank theft prevention

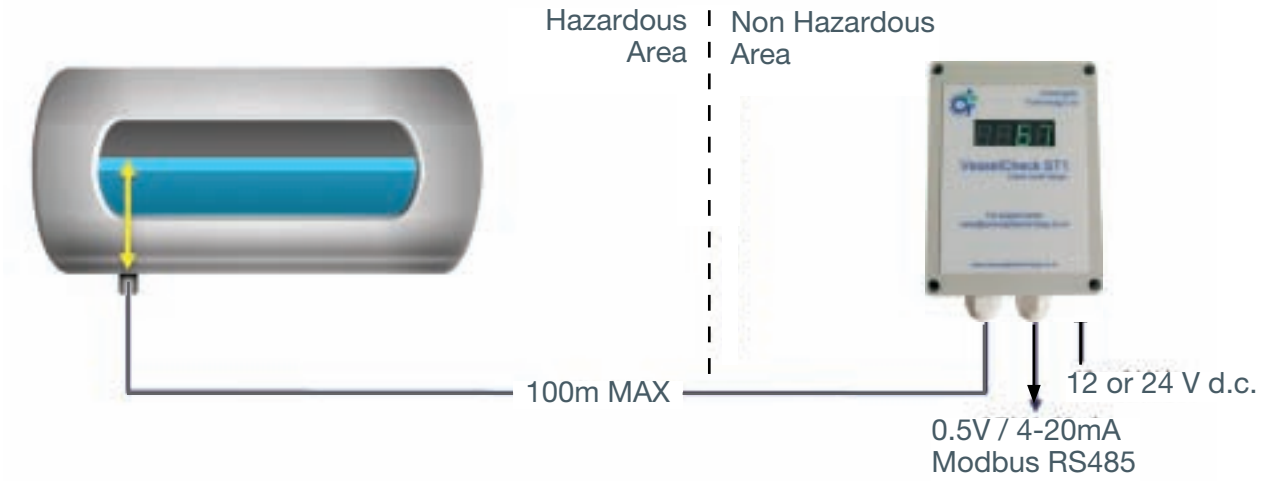
Rototherm
Canongate Technology

Level Measurement

Non-Invasive Tank Level Gauge

VesselCheck ST1

- Used extensively across Oil & Gas, Beverage, Chemical and Pharmaceutical industries
- Truly non-invasive
- Sensors bonded to outside of tank
- Fits tank of most shapes and sizes
- Output to Telemetry system – various options
- Low cost, reliable & accurate tank gauging
- Not affected by pressure
- Easy installation – no tank break-in
- Simple retrofit to existing tanks
- No down-time during installation
- No moving parts – no maintenance
- Temperature integrated sensors available
- ATEX/IECEx approved sensors for hazardous areas available



Hazardous Area Non-Invasive Tank Level Gauge

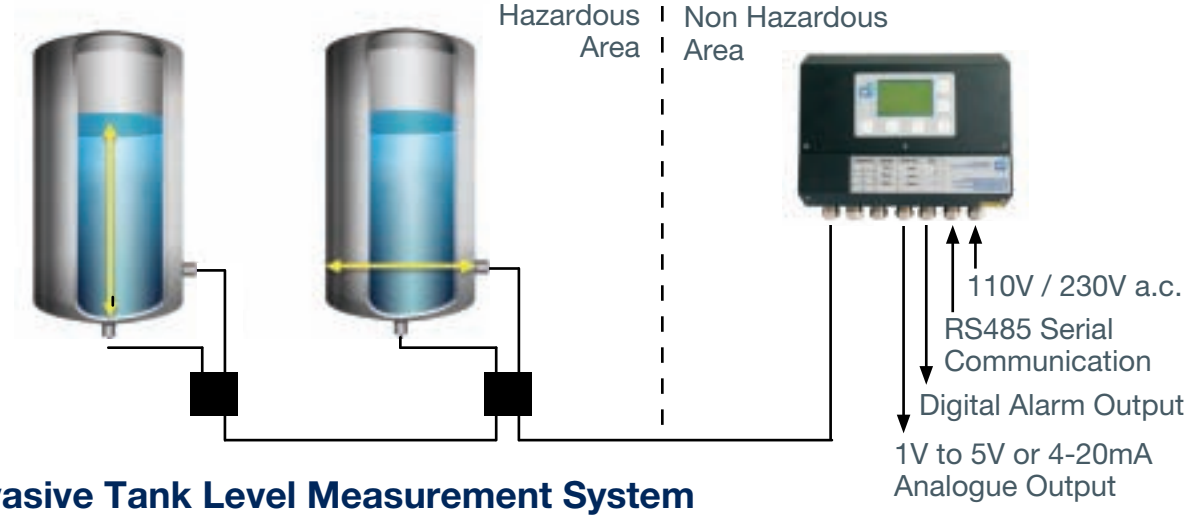
VesselCheck ST1AD

- Approved for hazardous area
- Used extensively across Oil & Gas, Beverage, Chemical and Pharmaceutical industries
- Truly non-invasive
- Transceiver bonds to outside of tank
- No tank break-in
- Easy installation
- Ambient temperature compensated (temperature measurement in display unit)
- No down-time during installation
- Suitable for tanks of most shapes and materials
- Not affected by pressure
- No moving parts – no maintenance
- Low cost & reliable tank gauging

Non-Invasive Tank Level Measurement System

VesselCheck ST2

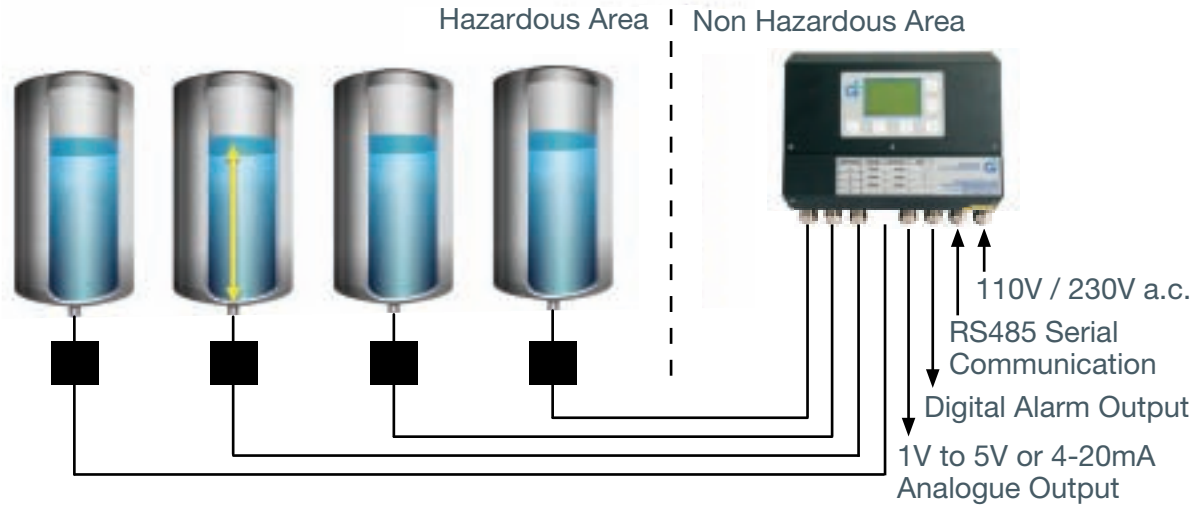
- Level measurement for 2 tanks
- Truly non-invasive technique
- Sensors bonded to outside of tank base and side wall
- 20 point calibration table
- 4 - 20mA / 1.5 V analogue outputs
- RS485 / 232 Modbus serial communications
- ATEX/ IECEx approved sensors for hazardous areas available
- Optional local display keypad
- Fast, reliable and accurate tank contents measurement
- Easy installation – no tank break-in
- Easy retrofit to existing tanks
- No down-time during installation
- No moving parts – little or no maintenance required



Non-Invasive Tank Level Measurement System

VesselCheck ST4

- Level measurement for up to 4 tanks
- Truly non-invasive technique
- Sensors bonded to outside of tank base and side wall
- 20 point calibration table
- 4 - 20mA/ 1 - 5V analogue outputs
- RS485 / 232 Modbus serial communications
- ATEX / IECEx approved sensors for hazardous areas available
- Optional local display & keypad
- Fast, reliable and accurate tank contents measurement
- Easy installation – no tank break-in, easy retrofit to existing tanks
- No down-time during installation
- No moving parts - little or no maintenance required



Non-Invasive Point Level Detector for Tanks & Pipes (Hi-Lo Alarm)

SpotCheck 1000/4000

- Non-invasive liquid level switch for use in applications where avoiding contact is vital
- Uses ultrasonic “footprint” to determine presence or absence of liquids inside a tank or pipe
- Sensor is clamped externally to the wall of the pipe or vessel
- Enables tank high / low level alarm
- Response time of 1 second

Applications include:

- Pump run dry protection
- Pig detection
- Tanker off-load pump control
- Overfill alarm
- Hygienic level switch for foodstuffs, liquids, pharmaceuticals and chemicals

Graphic Colour Operator Interface

HMI

- 5. 7” TFT Colour LCD
- 5 Button Keypad
- Resistive Analogue Touchscreen
- RS232/422/485 Comms port
- Integrated Ethernet & web server
- USB Port
- Configured to your application
- High Performance Core
- Integrated Functionality
- To be used with the Canongate VesselCheck series for level measurement

In-Line Measurement

Liquid Concentration Sensor & Transmitter

DensiCheck TX

- Economic measurement of liquid concentration and density through use of ultrasound technology
- Available as non-invasive and invasive formats
- ATEX hazardous area approved
- Zero drift and no re-calibration
- No moving parts
- Lower installation and maintenance costs
- Increased process efficiency
- Improved quality monitoring
- High accuracy and repeatability

Oxygen Measurement

OxyCheck2

- Designed for hygienic applications to measure dissolved oxygen content (DO_2) reliably and accurately
- Uses photodiode technology
- Measurement range from 4ppb to 25ppb (0.05% - 300% saturation)
- Low maintenance required
- Electrolyte free and no fragile membrane
- Quick response and not affected by flow rate
- Integrated RS485 Modbus RTU interface

Carbon Dioxide Measurement

CarboCheck

- Accurate monitoring and control of dissolved CO2 levels in carbonated beverages
- Hygienic fitting, can be cleaned in-place
- No sampling or product by-pass lines
- Available as single/ dual channel controller
- Low maintenance requirement
- Improved ‘right first time’ carbonation figures in-line or in-tank
- More efficient process control

Multi-measurement Controller & Analyser

MultiCheck

- Allows for multiple control & measurement of Carbon Dioxide, Oxygen and Alcohol/Plato
- Comprises of central control unit and sensors, providing a “one-system” measures all approach
- Ensures fast identification of products outside specification
- Very low maintenance required

Beverage Industry Specific Products

Mashing Bath for Extract Measurement

CT4 Mashing Bath

- Mashing bath for measurement of extract by IOB, EBC and ASBC procedures
- Stainless steel bath with integral pump for circulation of water through heater box and bath Beakers in the bath are stirred using magnetic followers and all samples are mashed and cooked together
- Bath is designed to be fully automatic, and manual control is possible if required
- PLC Control
- Colour graphics with touch display
- Programmable delayed start
- Audible alarm
- Bath temperature controlled by internal attemperation unit
- Temperature measured and controlled to +/- 0.2°C
- Low level water cut out
- Accurate water dispense (+/- 5ml) to all beakers in less than 2 minutes
- Simple touch screen access to volume calibrations
- Real time trending of machine sequence
- Remote servicing available via modem
- Two automatic pre-programmed mashing sequences
- Data storage of last 30 processes
- Overview screen to monitor all control I/O operations

Temperature Assemblies

"We provide expertise and a wide range of solutions to meet your temperature sensing needs"

Talk to the experts…

- Advanced machine shop with CAD/CAM functionality
- In-house machining, testing and welding
- Bespoke designs to meet your requirements
- Fully traceable certification for high quality materials, testing and inspection
- In-house testing equipment
- Extensive documentation packages
- Compliance to International Standard IEC 60751:2008 and BS EN 60584/2
- ATEX approval for specific applications

Industries:

- Power
- Oil & Gas
- Petrochemical
- Refining
- Food
- Medical
- Automotive
- Pharmaceutical
- HVAC/Refrigeration

Applications:

Temperature monitoring for all applications including:

- Generators & Transformers & Engines
- Pumps & Compressors & Turbines
- Pipeline systems
- Exhaust gas systems
- Steam drums
- Tank farms
- Surfaces
- Chemical distillation
- Hygienic processes

Probes

General Purpose Probes

1RPT, 1PRS, 1RIP, 1TPT, 1TPS, 1TIP

- RTD probes for stable, repeatable measurements and excellent performance in high levels of shock/vibration - Sensor PT100 class A, B, AA, 1/5, 1/10 DIN
- Thermocouple probes for wider temperature ranges - sensor inputs type K, J, T and N
- Field bendable, Inconel or stainless steel sheath
- Measuring range minimum -200°C to +1200°C

Fast Response Probes

1RFR, 1TFR

- Fast response probe with low mass element to react quickly to temperature changes
- Sensor PT100 class A, B, AA, 1/5, 1/10 DIN. Thermocouple inputs type K, J, T and N.
- Measuring range dependant on sensor selection minimum -200°C to +1200°C

Spring Loaded Probes

1RSP, 1TSP

- Spring loaded, tip sensitive RTD and thermo-couple probes
- Sensor PT100 class A, B, AA, 1/5, 1/10 DIN. Thermocouple inputs type K, J, T and N.
- Measuring range dependant on sensor selection minimum -200°C to +1200°C
- Insulated or bonded junction hot end and a selection of cold end seals and terminal blocks to suit application

Bayonet Mount Probes

1RBM, 1TBM, 1RBF, 1TBF

- Easy and inexpensive spring loaded installation of probes in solids
- Lock cap and spring for twist-and-release spring loading
- Thermocouple or RTD probes options
- Accurate sensing from -50°C to +260°C

Bearing RTD

1RBS, 1RBO

- High precision RTDs for fast, stable, repeatable measurements where there are space limitations
- RTD sensor Pt100 Class, B, A, AA, 1/10 DIN
- Measuring range of -200°C to +260°C
- Field bendable
- Moisture proof and oil seepage proof

Conduit Style

1RSD, 1RBS, 1 RBC, 1TSD, 1TBC

- Armoured cable protects the leads of thermocouples types E, J, K, N & T
- Well suited for industrial environments where unprotected probes may be cut or broken
- Metal sheaths made to your required length

Magnetic Mounted RTD

1RMM

- Magnet Mount Thermocouples can be utilised on any ferrous metals as an easy means to measure surface temperature of an object
- Provide a portable means of surface measurement that takes the hassle out of mounting a surface probe to a metal object

High Temperature Probes

ITCL, ITPG

- Thermocouple probes type R, S and B
- Measuring range up to 1700°C

Miniature Embedded Probes

1MN1

- Small, rugged RTDs to withstand rough handling and harsh environments
- Sensor Pt100 Class AA, A, B
- Measuring range from -50°C to +260°C

Thermowells

Solid Drilled

4WSS, 4WSF, 4WSW, 4WSV

- Drilled from solid bar for process pressure
- Wide Range of Materials including Stainless Steels and exotic materials
- Parallel or tapered stems
- Flat, domed or round tips
- Choice of Process Connections: Flanged, Screwed, Weld-In
- One piece Forgings
- ASME IX Coded Welding
- Special Coatings
- Non Destructive Testing

Fabricated

4WFS, 4WFF

- Fabricated thermowells manufactured from pipe, tube or bar which are then sealed by a solid welded tip
- Low cost alternative to solid drilled construction when high pressure not a design consideration
- Wide Range of Materials
- Choice of process connections
- ASME IX Coded Welding
- Special Coatings
- Non Destructive Testing

Velocity Collar

4WVF, 4WVV

- Range of solid drilled thermowells constructed with the addition of a velocity collar which is a metal ring machined onto profile of thermowell
- Reduces the unsupported length of the thermowell
- Reduces vibration

Temperature Assemblies with Thermowells

Standard Assembly

3AFR, 3AFT, 3ASR, 3AST

- Standard assemblies fitted with available MI probes (specified in Probe Section)
- Numerous connection head & transmitter options available
- Options for explosion proof and flameproof rating for hazardous areas
- RTD or Thermocouple assemblies - Sensor PT 100 class, A, B, AA, 1/5, 1/10 DIN
  Thermocouple inputs type K, J, T, and N
- Measuring range dependant on sensor selection: -200°C to +1200°C

High Temperature Ceramic

3AHC

- High temperature ceramic assemblies
- Measuring range up to +1700°C
- Options for explosion proof or flame proof rating for hazardous areas

Temperature Assemblies without Thermowells

Pipe Clamp

2RSM, 2PBR, 2TPR

- Easily fitted to pipe - No need for thermowell in pipe
- Accuracy and response is similar to immersed thermowell assembly
- Numerous connection head and transmitter options available
- Options for explosion proof and flameproof rating for hazardous areas
- RTD or Thermocouple sensors available
- Sensor PT100 class A, B, AA, 1/5, 1/10 DIN
- Thermocouple inputs type K, J, T and N
- Measuring range dependant on sensor: -200°C to +300°C

General Purpose

2GPR, 2GET, 2GER, 2GGR, 2GPT, 2GGT

- Standard assemblies fitted with available MI probes (specified in Probe Section)
- Numerous connection head and transmitter options available
- Options for explosion proof and flameproof rating for hazardous areas
- RTD or Thermocouple assemblies - Sensor PT 100 class, A, B, AA, 1/5, 1/10 DIN
- Thermocouple inputs type K, J, T, and N
- Measuring range dependant on senor selection: -200°C to +1200°C

Transmitters & Connection Heads

Fixed Range

7T48

- Manufactured to a high specification
- Fixed range for RTDs, Thermocouples, Resistance – sensor, mV
- Easily adjustable zero and span potentiometers
- Analogue output 4 … 20mA, invertible, 2 – wire design

Programmable Tx

7T32

- Programmable for RTDs, Thermocouples, Resistance – sensor, mV
- Output linear to temperature with input signal from RTDs and Thermocouples
- Analogue output 4 … 20mA, 2 wire design
- Signal configurable for sensor burnout and sensor short circuiting
- 7T32: Hart Protocol, ATEX Approved

Hart Protocol

TR310

- Pt100 type: 2, 3 & 4 Wire
- Thermocouple type: K, J, T, R, S, E, L, N, Custom
- Potentiometer input up to 100kΩ with external resistor
- Power supply (10 to 40) VDC, Output (4 to 20) mA HART, Voltage (-10 to 75) mV
- Ambient Operation (-40 to +85) deg C
- Sine Vibration DNV Standard
- Diameter 44 mm
- Custom linearisation

Programmable

TR210

- Pt100 type: 2, 3 Wire
- Thermocouple type: K, J, N, E, T, R, S
- Potentiometer input (1 to 100) kΩ auto sense
- Power supply (10 to 30) VDC, Voltage (-10 to 75) mV, Output (4 to 20) mA
- Isolation
- Ambient Operation (-40 to +85) deg C
- Diameter 43 mm
- Sine Vibration DNV Standard

TC - Pt100 Transmitter

TR206TC & TR206P

- Pt100 type: 2, 3 Wire or Thermocouple type: K, J, N, E, T, R, S
- Output (4 to 20) mA
- No Isolation
- Ambient Operation (-40 to +85) deg C
- Power supply (10 to 30) VDC
- PC Configuration
- Diameter 43 mm
- Sine Vibration DNV Standard

Connection Heads

8HH7, 8HBZ, 8HBS, 8HKE, 8HKN, 8HTD

- PBT, PET, Ryton or ceramic materials available
- Configuration up to 8 terminals
- Spring loaded baseplate if required
- Weatherproof
- Selection of cable and process adapters
- 1/2 BSP, 3/4 BSP, M24 instrument connections

RTD Elements & Slot RTDs

Elements

5REW

- Ceramic wire wound elements manufactured in-house
- Class B, A, 1/3, 1/5 and 1/10 DIN
- 2 wire, 3 wire or 4 wire options
- Range of sizes to suit application
- -200°C to +660°C
- Many items held ex-stock

Elements & Extensions

5REL

- Fitted with extension wire to allow for fast installation into application
- Extension wire type and length to suit requirement
- Class B, A, 1/3, 1/5 and 1/10 DIN
- Range of sizes to suit application
- -200°C to +660°C
- Many items held ex-stock

Slot RTDs

6SR1

- Install between stator winding for continuous protection of motors and generators
- Sensor Element: Pt100, Class B, A, AA

Custom Designs

Multipoint Assembly

Multipoint Assembly

- Typically used for temperature profiling in furnaces, chemical reactors and process lines.
- Lower installed cost with up to 60 independent measuring points
- Replaceable inserts for easy measurement
- Custom designs for any application by one of our specialist engineers
- Can be supplied as just the probe or as a ‘package solution’ including transmitters/ controllers for implementing into on-site control systems

Bespoke Designs

Custom Solutions

- For non-standard designs, Rototherm’s temperature engineers can analyse your temperature measurement needs and design a bespoke solution that can be manufactured at our extensive UK facility
- The engineers will typically work with you through the design process to ensure all needs are met
- Our large service team can be available for installation, commissioning and operation to ensure success

Switches & Manifolds

"We design and manufacture one of the widest ranges of pressure and temperature switches in the world"

Talk to the experts…

- Over 50 years expertise
- Quick delivery turnaround
- Reputation for quality, reliability and long service life
- Extensive worldwide client list
- Wide variety of types, materials, wetted parts and connections
- Available to NACE standard MR-0175 for corrosive environments
- Fully traceable certification for high quality materials, testing and inspection

Industries:

- Oil & Gas
- Heat Treatment
- Chemical/Petrochemical
- Refining
- Nuclear
- Power
- Water & Wastewater
- HVAC
- Automotive

Applications:

Temperature & Pressure monitoring for all applications including:

- Wellhead Control Panels
- Construction Equipment
- Dry Gas Seal
- Lube Oil Systems
- Air Distribution Lines
- Generators & Transformers & Engines
- Pumps & Compressors & Turbines
- Pipelines

Rototherm HNL

Pressure Switches

The 300 Series Pressure switches offer **accurate, reliable and repeatable switching** in a robust alumium or stainless steel cast enclosures. **Compact design** for limited spaces.

Standard

Series 300

- Designed to provide electrical output switching for non-hazardous area applications
- Ranges from -1 to +600 Bar
- High overload ratings
- Wide range of output switches
- Wide range of diaphragm materials
- Simple maintenance and field adjustable
- IP66 ingress protection

Hazardous

Series 300

- Designed to provide electrical output switching for Potentially Explosive Atmosphere applications
- Ranges from -1 to +600 Bar
- High overload ratings
- Wide range of output switches
- Wide range of diaphragm materials
- Simple maintenance and field adjustable
- Exd, ExnC and Exia certification

Pneumatic

Series 300

- Designed to provide the switching of a compressed gas supply, tipically air
- Ranges from -1 to +600 Bar
- High overload ratings
- 2 or 3 port output valves
- Low switching differentials
- Wide range of diaphragm materials
- Simple maintenance and field adjustable
- IP66 ingress protection

The **extended range** of 700 Series Pressure and Differential Pressure switches offer **accurate, reliable and repeatable switching** in a robust Al or SS cast enclosures with **integral vent ring safety feature**.

Standard

Series 700

- Designed to provide electrical output switching for non-hazardous area applications
- Ranges from -1 to +600 Bar
- High overload ratings
- Wide range of output switches
- Wide range of diaphragm materials
- Simple maintenance and field adjustable
- IP66 ingress protection

Hazardous

Series 700

- Designed to provide electrical output switching for Potentially Explosive Atmosphere applications
- Ranges from -1 to +600 Bar
- High overload ratings
- Wide range of output switches and diaphragm materials
- Simple maintenance and field adjustable
- Exd, ExnC and Exia certification

Pneumatic

Series 700

- Designed to provide the switching of a compressed gas supply, typically air
- Ranges from -1 to +600 Bar
- High overload ratings
- 2 or 3 port output valves
- Low switching diferentials
- Wide range of diaphragm materials
- Simple maintenance and field adjustable
- IP66 ingress protection

Temperature Switches

Designed to compliment the extensive range of Pressure and Differential Pressure switches, Series 700 Temperature switches offer **accurate, reliable and repeatable switching** in a robust aluminium or stainless steel cast enclosure. All models are field adjustable and require **simple maintenance**.

Standard

Series 700

- Designed to provide electrical output switching for non-hazardous area applications
- Ranges from -50°C to +400°C
- Direct and remote mounting with capillary
- Wide range of bulb and capillary lengths
- Integral vent ring safety feature
- Wide range of output switches
- IP66 ingress protection

Hazardous

Series 700

- Designed to provide electrical output switching for Potentially Explosive Atmosphere applications
- Ranges from -50°C to +400°C
- Direct and remote mounting with capillary
- Wide range of bulb and capillary lengths
- Integral vent ring safety feature
- Wide range of output switches
- Exd, ExnC and Exia certification

Pneumatic

Series 700

- Designed to provide the switching of a compressed gas supply, tipically air
- Ranges from -50°C to +400°C
- Direct and remote mounting with capillary
- Wide range of bulb and capillary lengths
- Integral vent ring safety feature
- 2 or 3 port output valves
- Low switching differentials
- IP66 ingress protection

Electronic Switches and Transmitters

The Series 800 Smartstat is a microprocessor controlled **switch, transmitter and indicator,** which enables several instruments to be replaced with a **single device producing cost savings** due to re-duced equipment costs, documentation, installation, calibration and ongoing maintenance.

Pressure and Differential Pressure

Series 800 Smartstat

- Pressure Range: -1 to 1000 bar
- Differential Pressure Range: 15 mbar to 4 bar
- 24Vdc 4-20 mA loop powered
- High accuracy and repeatibility
- Display of max/min pressures and mA output
- Programmable 2 x SPDT relay switching points
- IP65 Ingress Protection
- EExiaIIC certification available

Temperature

Series 800 Smartstat

- Temperature Range: -40°C to 400°C
- Direct and remote mounting with conduit
- Wide range of bulb and capillary lengths
- 24Vdc 4- 20mA loop powered
- High accuracy and repeatability
- Display of max/min pressures and mA output
- Programmable 2 x SPDT relay switching points
- IP65 Ingress Protection
- EExiaIIC certification available

Manifolds

Originally designed for instrument air supplies within controls panels, our **air distribution manifolds** are now available for gaseous and liquid media in petrochemical, marine and general industrial applications. Their **compact construction** is ideal for use in panels and confined spaces.

Compact Manifold

Series 900 Minifold

- Compact & cost-effective solution
- Aluminium or stainless steel construction
- From 2 to 12 outlets
- Inlet connections 3/8” BSPF
- Outlets tapped 1/4” BSPF

Compact Manifold

Series 910 Minifold

- Corrosion resistant 316 SS block
- PTFE seated 316 SS ball valves
- Quick 1/4 turn open/close handle
- Standard 4, 6 or 10 outlets can be linked in series
- Inlet connections 1/2” or 3/4” BSPT or NPT
- Outlet connections 1/4” or 1/2” BSPT or NPT
- Flanges, isolating valves and drain valves available on inlets and outlets

Compact Manifold

Series 940 & 950 Minifold

- Utilises a thermoplastic valve spindle in brass or 316 SS valve body
- Anodised aluminium block with brass outlet valve
- 316 SS block with 316 SS outlet valve
- A row of 5, 10 or 20 valves suitable for 1/4” or 6 mm tubing
- Inlet connections 3/8” or 3/4” BSPF or NPT

Standard Manifold

Series 960 Minifold

- Utilises a thermoplastic valve spindle in 316 SS valve body
- Ready to use, simply push in tube and tighten up compression nut
- Anodised aluminium block with brass outlet valve
- 316 SS block with 316 SS outlet valve
- A row of 5 or 10 valves suitable for 10 mm tubing
- Inlet connections 3/4” BSPF or NPT

Standard Manifold

Series 971 Minifold

- Utilises a thermoplastic valve spindle in anodised aluminium extruded block
- A row of 5 or 10 integral valves
- 1/4” tapped outlet connections, BSPF or NPT
- Inlet connections 1/2” BSPF or NPT
- Push-in outlet connections for direct connections of 6 mm tube

Standard Manifold

Series 975 Minifold

- Utilises a thermoplastic valve spindle in anodised aluminium extruded block
- A row of 5 or 10 integral valves
- 3/8” tapped outlet connections, BSPF or NPT
- Inlet connections 3/4” BSPF or NPT

Linear and Rotary Positioners

The 980 and 982 Series Positioners are used to **control the travel of the piston rod** on single or double acting positioned cylinders and the drive shaft rotation of single or double acting rotary actuators, typically to open and close valves with a control signal of 3 to 15 PSI.

Linear Positioner

Series 980

- Control signal of 3 to 15 PSI, 0.2 to 1.0 Bar (other options available)
- Supply pressures up to 10 Bar
- Very reliable even with indifferent air quality
- Aluminium or Stainless Steel construction
- Simple zero and span adjustments
- Feedback cam can be configured to produce direct or reverse acting operation
- Supplied on its own, with configured cam and link arm, or installed, piped and calibrated to a suitable cylinder
- High Gain option for increased volume, larger bore cylinder applications

Rotary Positioner

Series 982

- Control signal of 3 to 15 PSI, 0.2 to 1.0 Bar (other options available)
- Supply pressures up to 10 Bar
- Very reliable even with indifferent air quality
- Aluminium or Stainless Steel construction
- Simple zero and span adjustments
- Easily configure for either clockwise or anti-clockwise rotation
- Supplied on its own or installed, piped and calibrated to a suitable actuator

Flow Regulators

Precision flow regulators are designed for use on applications where a constant flow rate of air is required regardless of fluctuations in input or output pressure, such as in dip tube level systems and purging applications.

Regulator with Indicator

Series 1721

- Fitted with a bubbler flow indicator
- Supply pressure up to 8 Bar
- Flow rate: from 0.5 to 3.0 Nl/hr
- Robust and reliable
- Aluminium or Stainless Steel construction
- IP66 ingress protection

Regulator without Indicator

Series 1735

- Supplied blind without flow indicator
- Supply pressure up to 16 Bar
- Flow rate: from 0.5 to 300 Nl/hr
- Robust and reliable
- Aluminium or Stainless Steel construction
- IP66 ingress protection

Pneumatic Solutions

Pneumatic Switch

Series 100

- Designed to provide the switiching of a compressed gas supply, particularly monitoring systems associated with natural gas transmission, as it is uniquely non-bleed in either switched state
- Standard pressure range from 100 mBar to 100 Bar
- Configurable for N.O. or N.C. operation
- Two-port output switching with vent
- Compact and robust
- High accuracy and repeatability

Pneumatic Indicator

Series 847

- Pneumatic visual alarm indicator, for application where a visible alarm warning is required
- Compatible with Series 400 Annunciators, 300 & 700 Series Pneumatic Pressure Switches
- 1.4 to 10 Bar supply pressure
- Air off or Air on indication

Float Switch

Series FLT

- Designed to be mounted in the top of a tank into which access is possible to secure the locknut and float
- Pilot pressure 2 to 6 Bar
- Push-in fittings suitable for 6 mm pipe
- Magnetically operated output valve isolated from process
- 316 SS wetted parts
- N.O. or N.C. configuration of output signal
- Single or dual set-points

Air Horn

Series 842

- Pneumatic Audible Alarm, compatible with Series 400 annunciators, 300 & 700 Series Pneumatic Pressure Switches or any application where an audible alarm warning is required
- Choice of 3 frequencies
- Site mounting or within enclosure
- Two tone effect utilising DS1054 Horn Modulator and two frequency horns
- 0.5 to 1.5 Bar supply pressure
- Thermoplastic construction

Temperature & Pressure Gauges

"Rototherm is proud of its pressure gauge heritage, it designed and built the first ever steam gauge back in 1847. We invented the bi-metallic thermometer in 1924 and continue to build on this culture of innovation"

Talk to the experts…

- Great heritage in pressure and temperature gauges
- Wide variety of ranges, materials, sizes, connections, etc.
- Pressure gauges available to NACE standard MR-0175 for corrosive environments
- Temperature gauges available with Thermowells suitable to your process requirements
- Gauges available to Defence Standards, manufactured according to NATO Stock Numbers (NSN)
- Accurate, reliable and durable gauges for all types of industries and applications

Industries:

- Defence
- HVAC
- Food & beverage
- Oil & gas/Offshore
- Chemical/petrochemical
- Hydraulics & pneumatics
- Medical
- Pumps & compressors
- Water & Wastewater
- Paper mills
- Agriculture plants
- Power generation
- Injection Molding Machines
- Automotive

Applications:

Temperature & Pressure monitoring for all processes, commercial and industrial applications including:

- Generators & Transformers & Engines
- Pumps & Compressors & Turbines
- Pipeline systems
- Exhaust gas systems
- Distillation columns
- Steam drums
- Extraction vessels
- Tank farms
- Surfaces
- Chemical distillation
- Hygienic processes
- Leak detection

Defence Standard Gauges

Defence Standard Gauge

SPGA

- Nominal Size: 63 - 300mm
- Def Stan 66.2 Issue 4
- Low range capsule pressure
- Class 1 Accuracy to EN837 (63mm dial Class 1.6)
- Simple installation and low maintenance
- Scale Range: -1 to 600 bar; 30”Hg VAC to 10,000 psi
- Full Safety Pattern Gauge
- Painted in Admiralty Grey to BS381C
- Manufactured to NSN specification

Process Gauges

Process Gauge (SS)

RPG, RCG (Stainless Steel)

- Nominal Size: 63 - 150mm
- Adjustable micrometer pointer as standard (not 63mm)
- Liquid fillable
- Low range capsule pressure
- Class 1 Accuracy to EN837
- Scale Range: -1 to 600 bar; 30”Hg VAC to 10,000 psi

Safety Pattern (Al)

SPGA (Aluminium Case)

- Nominal Size: 63 - 300mm
- Low range capsule pressure
- Class 1 Accuracy to EN837 (63mm dial Class 1.6)
- Simple installation and low maintenance
- Scale Range: -1 to 600 bar; 30”Hg VAC to 10,000 psi
- Solid front / Blow-out back

Safety Pattern (SS)

SPG (Full Stainless Steel)

- Nominal size 100-150mm
- Stainless Steel full safety pattern
- Class 1 accuracy to EN837
- Low range capsule pressure
- Scale range: -1 to 1000 bar
- Available with stainless steel or monel wetted parts
- Solid front / Blow-out back
- Liquid fillable

Digital Pressure Gauges

Digital Pressure Gauge

DG1

- Nominal Size: 100mm
- High Accuracy _+ 0.2% full scale
- Stainless steel IP67 case
- Long battery life – 1 year continuous operation from 2AA batteries
- Wide selection of pressure ranges from vacuum to 400 bar
- 4 to 20mA output option available
- Intrinsically safe versions available
- Supplied with calibration certificate traceable to National Standards
- Available with MAX and MIN pressure readings
- Transmitter version available (DG1-TX)

Differential Pressure Gauges

Light Duty DP Gauge

200DPG, 200DGR, 300DGC, 400DGC, 600DGC

- Nominal Size: 50 - 150mm
- Suitable Steel case
- Scale Range: 0 to 600 mm H2O: 0 to 10 bar
- Accuracy class ± 2.0% FSD
- Maximum static pressure: up to 200 bar
- Switching option
- Various materials for wetted parts
- Multiple process connections

Heavy Duty DP Gauge

DP360, DP370, DP362

- Nominal Size: 100mm & 150mm
- Full safety pattern option to EN837 – solid front and blow-out back
- Accuracy class ± 1.6% FSD (±1.0% option)
- Scale Range: 0 to 160mbar; 0 to 25 bar
- Switching options
- Wetted parts in Stainless Steel or Monel
- Multiple process connections

Accessories

Accessories

Manifolds, Syphons, etc.

- Pulsation Dampeners (Snubbers)
- Syphons – “Pigtail” and “U” pattern
- Over Range Gauge Protectors
- 2VG Series In-Line 2 Valve Manifold
- 2VR Series Remote Mounting 2 Valve Manifold
- AM413 3 Valve Manifold
- AM415 5 Valve Manifold

Diaphragm Seal Units

DSU

- Available with a wide choice of threaded or flanged process connections
- Wide choice of materials including Stainless Steel, Hastelloy, Inconel & Monel
- Wide choice of additional protective coatings
- Welded or bolted constructions
- Suitable for wide range of process medium and conditions

Filled System Thermometers

Stem Thermometer

NR1 & NR2

- Nominal size: 100mm & 160mm
- Stainless steel case (316 option)
- Available with rigid stem
- Non Toxic filling
- Scale range -30…+70 to 0 to 650°C
- Available with a wide range of thermowells
- Housed in a gasket sealed diecast aluminium case with adjustable zero

Capillary Thermometer

NC2

- Nominal size: 100mm & 160mm
- Stainless steel case (316 option)
- All stainless steel construction
- Back or bottom entry versions
- Capillary type
- Non Toxic filling
- Scale range -30…+70 to 0 to 650°C
- Available with a wide range of thermowells

Bi-metallic Thermometers

Light Duty Bi-metallic Thermometers

BL1

- Nominal size: 50mm & 63mm
- All stainless steel construction
- Scale range -30…+60 to 0 to 400°C
- Wide range of temperature ranges available
- Models available with thermowells suitable for pipelines
- Models available for use on ovens, sterilizers, cabinets

Surface Temperature Thermometers

BL3

- Nominal size: 63mm
- Spring fixing suitable for mounting to pipes (Model BL301)
- Magnetic fixing suitable for mounting to horizontal or vertical surfaces
- Stainless steel case and bezel
- Scale range -30…+60 to 0 to 400°C

Heavy Duty Fixed Stem Thermometers

BH2

- Nominal size: 63mm, 100mm & 160mm
- Stainless steel construction – case and stem
- Scale range -70…+70 to 0 to 600°C
- External zero adjustment
- No contaminants – safe for food and chemical applications
- Can be supplied with a wide range of Rototherm thermowells
- Can be fitted with electrical contact heads (100mm & 160mm sizes only)
- Available with maximum or minimum value and index pointers

Heavy Duty Any Angle Thermometers

BH3

- Nominal size: 100mm, 130mm & 160 mm
- Stainless steel construction
- Scale range -70…+70 to 0 to 600°C
- External zero adjustment Silicone filling available
- No contaminants – safe for food and chemical applications
- Can be supplied with a wide range of Rototherm thermowells

Digital Thermometers

The DigiTemp range of digital thermometers employ micro processors enabling extremely low power consumption to be achieved, thus offering extended battery life. Available with either thermocouple or RTD PT1000 sensors, DigiTemp is offered in both rigid stem and remote reading versions.

Digital Thermometers

DT1 & DT2

- Thermocouple (DT1) or RTD (DT2)
- Direct reading rigid stem or remote reading capillary versions available
- Choice of cable materials and protections
- 4 to 20mA retransmission option MAX/ MIN reading options
- 2 years continuous operation from 2 x AA cells

Thermometers, Pressure Meters, Gas Detection & Data Loggers

"We provide expertise and a wide range of solutions to meet your temperature sensing needs"

Talk to the experts…

Digitron offers an extensive range of products that include simple-to-use hand held thermometers, pressure meters, gas leak detectors and dataloggers through to state-of-the art wireless temperature monitoring solutions enabling customers to meet ever growing safety requirements.

Industries:

- Food & Beverage
- HVAC & Refrigeration
- Scientific & Pharmaceutical
- Transport
- Industrial
- Environmental

Applications:

Temperature & pressure measurement for all applications including:

- Food Service, Processing & Catering
- Food Manufacturing
- Cold Chain Logistics
- Thermal Profiling
- Gas Leak Detection
- Hospitals, Laboratories & Clean Rooms

Digitron
part of Rototherm Group

Food Processing & Catering

Ideally, a hand-held digital thermometer should be used when probing foods and checking air temperatures. Thermometers should be kept clean at all times. Probe thermometers should be sanitised/ disinfected before/after each use. It is important that you regularly check that the probe thermometer you are using is working correctly.

Hand-Held Digital Thermometers

FM35

- With interchangeable probe
- -40 to -110 deg C
- Accuracy ±0.5ºC (0º to 70ºC) ±1ºC elsewhere
- Rubber Boot
- Large LCD
- Auto OFF after 3 min.
- Lumberg connector
- Water Resistant
- Battery 1x 9V included (3000 hours approx. continuous use)

Accessories

Probes

- *FM35-GP* – FM35 General Purpose Probe. Thermistor sensor. Coiled cable.
- *FM35-AP* – FM35 Fast Response Flexible Air Probe. Thermistor sensor.

Digital Pocket Thermometers

FM10

- Water Resistant
- Quick response
- Auto Power Off
- Selectable Temperature Unit
- Large LCD

FM21

- Large LCD
- Quick response
- Long Battery Life
- Folding Probe

Calibration Checker System

TBS1

- Pt1000
- 0°C to +50.0°C/+32°F to +122°F
- Resolution 0.1°C/0.2°F
- Accuracy ±0.2% ±0.1°C/±0.2% ±0.2°F of reading
- 220/240V ac 50/60 Hz
- 31/2 digit 12.7mm/0.5” liquid crystal display
- Dimensions 159 x 116 x 147mm/6.3 x 4.7 x 5.9”
- 310gms/11oz15 minute delay

Digital Thermometers - Series

2000T Series

- K, T & Multi Type Sensor
- 2 Pin Mini Connector
- Hold Function
- Simple to operate
- 2 year standard warranty
- Long battery life: typically 500 hours
- Standard splash-proof IP65
- Robust case for long life in harsh environments

2100 Series

- T Type Sensor
- Food Safe Keypad
- Fast Response Display
- Improved Battery Life
- Selectable Auto Switch - Off
- IP67 Waterproof
- Hold facility

Digital Thermometers

8146T

- Foodsafe SteriTouch antimicrobial casing to reduce risk of contamination
- Large LCD display for ease of reading
- Fast Response for accurate and efficient readings in demanding environments
- Long battery life, 1-2 hours of continuous use for 2 years
- IP67 Rating - Dust & Waterproof
- Hold facility - enables recording of temperature readings
- User selectable units deg C or F

Wireless Digital Thermometers

FM25

- Wireless signal from remote sensors to base station
- Both channels displayed simultaneously
- Selectable Temperature Unit °C or °F
- Magnetic, wall mounting or free standing fixing base
- Remote Sensors equipped with spring action clips to secure inside fridge/freezer or alternative suction cups
- Audible and Visual Alarm with 15 minute delay
- Licence free frequency
- Low Battery Indicator

HVAC & Industrial

Gas Leak Detector

DSG10

- Simple, adjustable tic rate increases as the sensor tip approaches a leak
- Audible and visual tic-rate, fully adjustable
- Long 400mm gooseneck for remote access
- LED-Light illuminates the tip sensing area
- High sensitivity provides accurate detection
- Rubber boot protects instrument
- Sensitive to: Acetone, Alcohol, Ammonia, Butane, Gasoline, Jet Fuel, Hydrogen Sulphide, Industrial Solvents, Methane, Lacquer Thinner, Naphtha, Propane, Natural Gas.

Other Pressure Instruments

2000P Series

- Pressure ranges from 25mbar to 10bar
- Logging and leak testing ideal for more accurate gas tightness test
- Positive and negative (vacuum) pressure measurement
- Auto ranging displays for precise readings
- Selectable auto switch-off saves on operation cost and battery life
- IP67 BSI Cert 229/000132 / Dust and waterproof for added protection
- Selectable pressure units: psi, mbar, inH2O, mmH2O, mmHg, inHg, Pa

Gas Safe Kit

Thermometer TM-22

- Differential Inputs
- Degree C / F Selectable
- Water Resistant
- On/Off and Hold functions
- Speed Read function
- Yellow Rugged case with protective rubber boot
- Backlit Digital Display
- Magnetic attachment or tilt stand

Pressure Meter PM Series

- Differential Input: 8mm tube connectors
- 0-130 mbar measurement
- Water Resistant (IP67 rated) or Rugged case with protective rubber boot
- Magnetic attachment or tilt stand
- Push button Zero and Hold features
- Backlit Digital Display
- Auto Power Off after 12 minutes
- 0.01 resolution up to 19.99 mbar, then auto switches to 0.1 resolution

Intrinsically Safe

Thermometer 3208 IS

- Certifed to EEx ia IIC T4
- Highly Accurate
- Tough enclosure construction adds to durability
- Quality electronics give excellent reliabilty
- Easy to use
- Includes probe - 100 mm. shaft (also ATEX certified)

Pressure Meter P200 IS Series

- Certified to EEx ia IIC T4
- High accuracy
- Choice of pressure ranges
- Robust case
- Clear, digital display
- Battery life for 300 hours

Data Loggers

Temperature and Humidity Data Loggers

iMini Series

- Large LCD display with multi-functional viewing
- Advanced 4 alarm threshold
- Bookmarking and continuous data logging features
- Multiple memory options available (8K-128K)
- User friendly multi-language software for easy programming and download
- Temperature Range -40°C to +80°C (-40°F to +176°F)
- Resolution 0.1°C / 0.1°F / 0.1%
- Sensors Internal or external option
- Sensor response time:
- Internal Sensor – T90 of 20 minutes in moving air
- External Sensor – T90 of 5 minutes
- Customizable PDF reader & reports (option)

Temperature and Humidity Intelligent Data Loggers

iLog Series

- Compatible with Console Pro software
- LCD display
- Range -40°C to +70°C
- Humidity 0-100%
- Sensors - Temperature and Humidity
- Resolution 0.1°C
- Memory 32kb
- Can be fitted with 1 or 2 sensors in addition to a humidity sensor

Wireless Mini Data Loggers

Wireless Intelligent Series

- -40°C to +65°C (-40°F to 149°F) Temperature Range
- ±0.5°C (1.0°F) Accuracy
- 0.5°C (1.0°F) Resolution
- LCD Operating Temperature -20°C to +65°C
- 1812 samples memory
- 70m outdoor communication range (performance may vary due to environment)
- 16m indoor communication range Internal Sensor

Oven Data Loggers

ThermaPro 2

- Slimline design for ease of use in ovens/chillers
- 4, 8 and 16 channel options available
- Thermocouple or Voltage inputs
- Over 14,000 samples each when all 16 channels are in use
- Over 130,000 samples when one channel is in use
- Temperature Measurement range -200ºC to +900ºC
- User configurable software

HACCP: FOOD SAFETY

Why do you need a food thermometer?

Food thermometers are fundamental to maintaining your HACCP plan and ensuring food is prepared and stored and transported at safe temperatures. It shouldn´t be a guessing game - even the experienced professional can´t tell if food is cooked all the way through - and colour won´t tell you everything. Our Digitron products are ideal for checking core temperatures of food before serving. Our Digital Food Thermometer FM35 is our best selling product for catering purposes due to its price, accuracy, interchangeability and reliability.

HVAC & GAS SAFETY

Why do you need a Pressure Meter?

Gas engineers and plumbers know the importance of carrying out accurate pressure difference measurements during services and installations of domestic and commercial heating systems. The Rototherm Digitron PM Series allows readings to be taken to ensure the pressure on the gas burners is within the 18 to 25mbar required range. Outside this range, the burner will not be able to function properly causing the heating system to fail and possibly explode when starting the flame. With the precise measurements of the Rototherm Digitron Pressure Meters, all gas engineers and plumbers can confidently issue reliable gas safety certificates to their customers. Rototherm Digitron also provides a fast turnaround on the servicing and calibration of pressure meters, ensuring gas engineers and plumbers are never without their calibrated instruments.

Why do you need a Gas Leak Detector?

Gas and heating engineers need to ensure the work undertaken on domestic and commercial heating systems is leak free, if a leak is detected it needs to be pinpointed and fixed as quickly as possible. The DGS-10 is a state of the art multi-gas detector, simple to operate and perfect for detecting and identifying leaks. Its long, flexible gooseneck and small sensor head allow it to be used in tight, difficult to reach places. Viewing the area around the leak is made easy with a unique ‘tip-light’ incorporated into the sensor head. After using the DGS-10, simply wrap its gooseneck probe around the rubber sleeve for easy storage and protection.

Services

“We have a team of qualified, experienced engineers who can assist in the installation,wiring, configuration and commissioning of both new and existing instrumentation”

The configuration and operation of equipment, particularly complex electronic control systems, can sometimes be a daunting task, hence why Rototherm Group offers multiple services to our customers (on-site and in-house) ensuring that all our products work in compliance with our customers’ specifications.

Our services include:

- Instrument Repairs & Modifications
- Calibration & Commissioning
- Training

We offer the services above for all products manufactured by Rototherm Group, including the portfolio of our partnerships, such as Eurotherm and Loma Systems/Lock Inspection.

Prior to performing our services, we conduct an initial site inspection to determine which equipment will be required and the time frame of the service, allowing clear and transparent communication with our customers. We provide quick delivery of associated site reports and certification which is followed by a post service report.

Instrument Repairs and Modifications

Rototherm’s repair division, with its own dedicated workshop, ensures rapid customer solutions, which include not only current products, but also obsolete instruments. We keep large stocks and spares for our own manufactured products and also for our Rototherm Partners where we have agency agreements. All repairs, undertaken either on-site or workshop based, are controlled under our BS EN ISO 9001:2000 accredited Quality Procedures.

Calibration & Commissioning

Rototherm Group offers an extensive list of calibration and commissioning services (in-house and on-site) and it is available to all our customers throughout the UK. We can also offer these services for third party products.

Our calibration and commissioning services cover the following areas:

- Eurotherm products
- Loma Systems/Lock Inspection products
- Temperature
- Pressure
- Humidity
- Flow
- Level
- Density
- Liquid/CO2/O2 concentration
- Density

Our services range from one off calibrations to complete customer solutions and commissioning. Our UKAS traceable calibration certificates show before and after adjustment readings, which are issued for each instrument or sensor tested. These certificates can be customised to suit the customer's specific requirements.

Training Courses

Our courses, aimed at maintenance teams and engineers, are tailored to suit the individual client requirements and are carried out at the customer's premises to minimise disruption. Alternatively, we can arrange for the training to be carried out at one of the Rototherm Group's facilities.

Our courses typically cover:

- Safety procedures
- Routine maintenance
- Basic fault finding
- Basic product operation

Benefits:

- Long term product performance through correct operation
- Improved safety
- Reduced downtime

Training sessions are limited to a maximum of 6 persons and vary in time, according to the required syllabus. All training literature is supplied by Rototherm.

For Services, please contact: services@rototherm.co.uk

Loma Systems/Lock Inspection Partnership

Loma Systems/Lock Inspection is the global leader in the design and manufacture of metal detection, checkweighing and x-ray inspection systems for the food, pharmaceutical and packaging industries. Their products are uniquely engineered to facilitate compliance with international product safety standards, weight legislation and retailers' codes of practice, whilst identifying product defects and eliminating contaminants for consistent quality.

About Our Partnership

Rototherm Group's extensive knowledge and expertise regarding sterility, precision and regulations within the Pharmaceutical sector developed through our manufactured products and application understanding has enabled us to provide a full support solution for our Pharmaceutical customers with extra value added

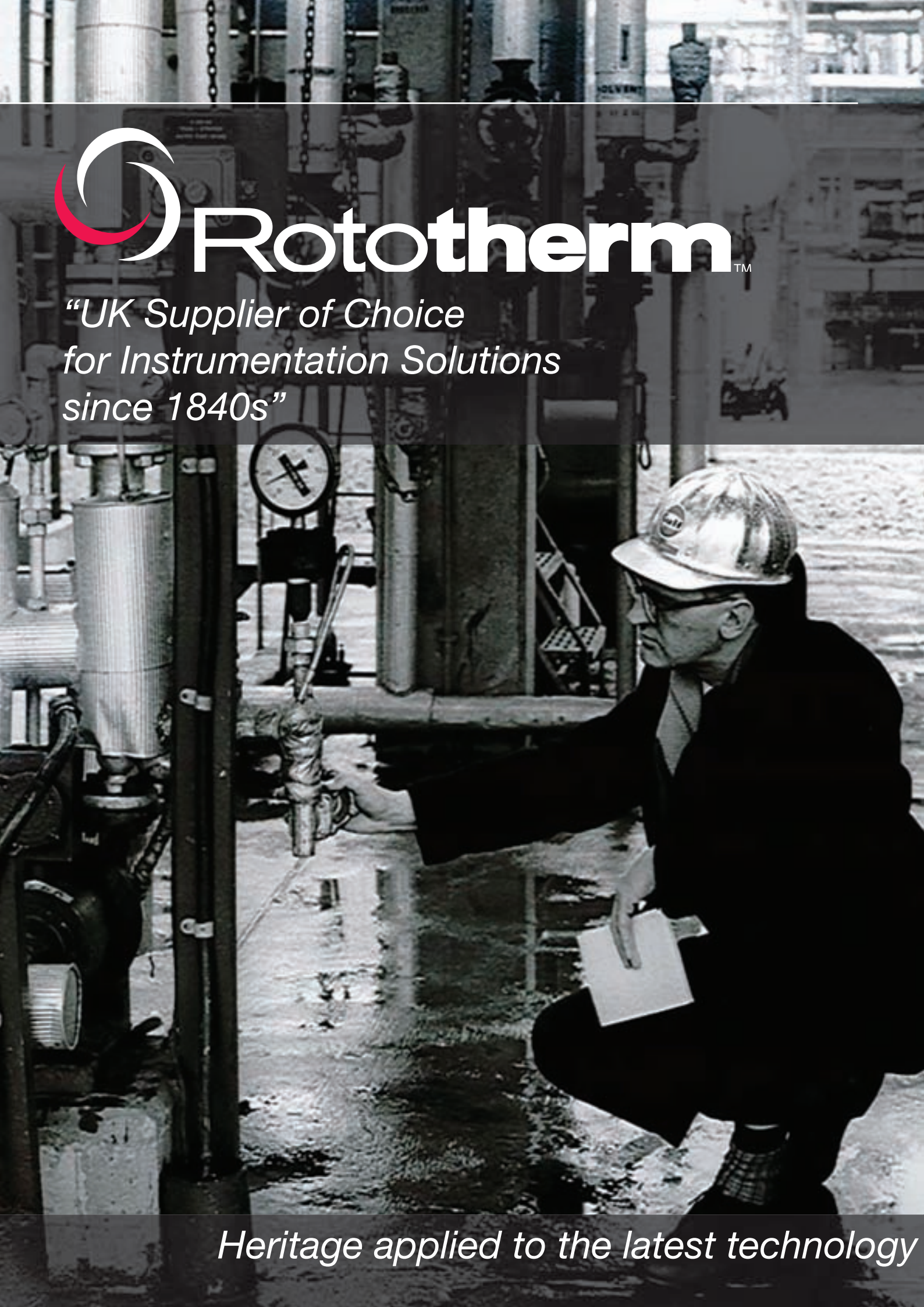
Rototherm Group has further enhanced its offering to the Pharmaceutical sector by announcing a partnership with Loma Systems/Lock Inspection. This agreement will involve the sale of the metal detection, check weighing & X-ray inspection systems exclusively addressed to the UK Pharmaceutical market.

Rototherm Group has in-depth application knowledge, support and service experience within the Loma Systems/Lock Inspection portfolio thanks to our Irish subsidiary (Bentley Instruments) that have been supporting these products within Ireland for the past 20 years. Rototherm Group will also provide spare parts, service, commissioning and calibration support within the UK Pharmaceutical Market.

Metal Detection

X-Ray Inspection

Checkweighing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HEAD OFFICE & MANUFACTURING FACILITY

ROTOTHERM GROUP
Kenfig Industrial Estate, Margam,
Port Talbot, SA13 2PW, UK
Tel : +44 1656 740 551
Email : sales@rototherm.co.uk
For Services:
Email: services@rototherm.co.uk

REGIONAL OFFICES

ROTOTHERM USA/LATAM INC
1700 Post Oak Boulevard,
2 Blvd Place, Suite 600,
77056, Houston, TX, USA
Tel: +1 (503) 855 8600
sales@rotothermgroup.com

ROTOTHERM AUSTRALIA PTY LTD
2/84 Barberry Way, Bibra Lake,
WA 6163, Australia
Tel: +61 8 9494 2855
Email: sales@rototherm.com.au

ROTOTHERM SINGAPORE PTE LTD
41 Toh Guan Road East,
ADL Building #04-01C
Singapore 608605,
Tel: +65 68714 116
Email : sales@rototherm.com.sg

UK & IRELAND OFFICES

ROTOTHERM CANONGATE
53-54 IMEX Business Centre,
Dryden Rd, Bilston Glen Ind. Est.
Loanhead, EH20 9LZ, UK
Tel: +44 1314 480 786
Email: sales@rototherm.co.uk

ROTOTHERM RTD PRODUCTS
Units 10 & 11 AK Business Park,
Russel Road, Southport,
Merseyside, PR9 7SA, UK
Tel: +44 1704 507 696
Email: sales@rototherm.co.uk

BENTLEY INSTRUMENTS CO. LTD.
Unit 78 Western Parkway
Business Park, Ballymount Road,
Dublin, Ireland
Tel: +35 314 050 100
Email: info@bentley-instruments.com
For Loma Systems/Lock Inspection:
Email: pharma@rototherm.co.uk