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Canalta Flow Measurement

DIFFERENTIAL PRESSURE PRODUCTS & SERVICES



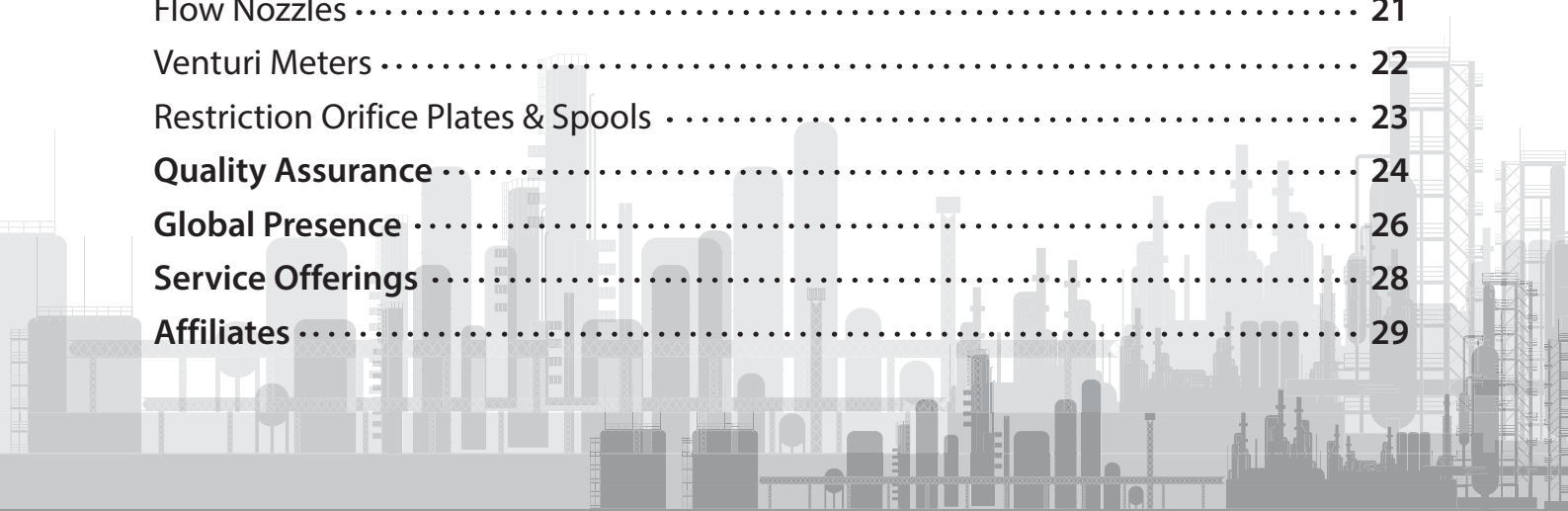
www.canaltaflow.com

ACCURACY, RELIABILITY, PERFORMANCE.

Canalta 
Flow Measurement
A Canalta Controls Company

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CANALTA FLOW MEASUREMENT

Dedicated to providing exceptional quality, service, delivery and value for more than 25 years.

CANALTA CONTROLS LTD. is a privately held Canadian company that began operations in 1986 as an instrumentation and electrical contractor. The company and its affiliates in the Canalta Group now manufacture and service several product lines specifically targeting the oil and gas sector, including differential pressure metering devices, flow conditioning solutions, burner control and ignition systems and fuel train safety shutoff valves.

Canalta has grown to include primary manufacturing and warehousing facilities in Red Deer, Alberta, Dallas, Texas and Coimbatore, India, as well as direct sales offices in Dallas, Buenos Aires and Suffolk, UK. Canalta product is supplied around the world via our own sales offices and through an extensive global distribution network.

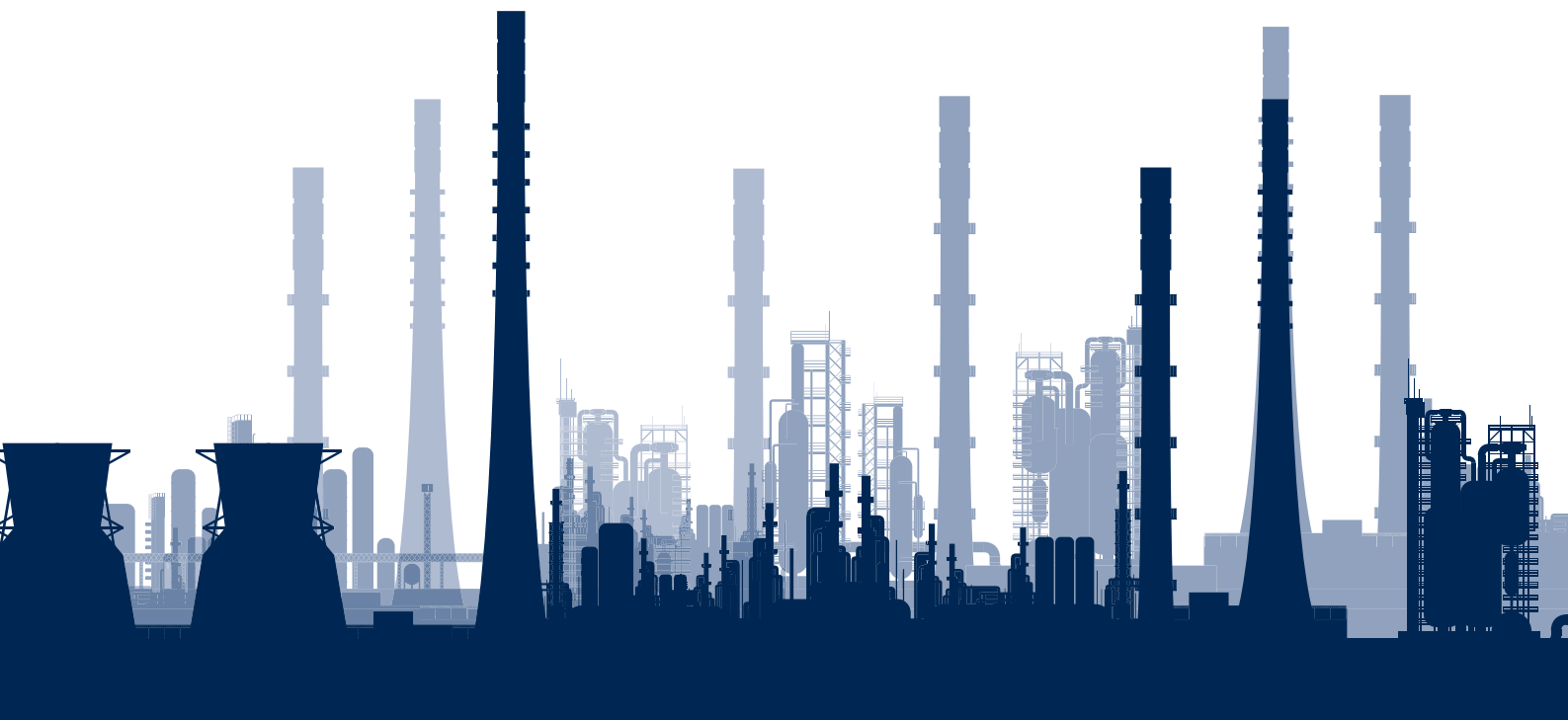


Commitment to Excellence

FULL SPECTRUM SERVICE FOR COMPLETE SATISFACTION

At **CANALTA FLOW MEASUREMENT**, our service levels really differentiate us from other product suppliers in the market. We are not satisfied just to supply the meter; we want to **PARTNER** with our esteemed customers throughout the product life cycle. The entire Canalta team takes great pride in receiving a quote request and we are well versed in supporting our customers' needs and requirements.

Throughout our history we have maintained a dedication to quality, service and delivery without sacrificing our competitive price point, offering our customers **VALUE** as well as a superior product. Our ISO 9001 registration, comprehensive quality control programme and expanding business reflect this dedication, and we are committed to maintaining these values in the future.



EARLY INVOLVEMENT

We encourage our customers to involve Canalta early in the project process (FEED). With our long standing experience in metering, we can add value by helping to define the scope and layout of your systems.

TRAINING

Canalta product is manufactured with ease of use and safety as a priority. However, we encourage and are pleased to offer any training required.

AFTER-SALES PARTS & SERVICE

Beyond project execution, we are always on hand to offer any after-sales service you may require.

CUSTOMER SERVICE

Communication between Canalta and our customers is the key to successful project execution, and our dedicated team will keep you up to date right through to the conclusion of your project.

TECHNICAL SUPPORT

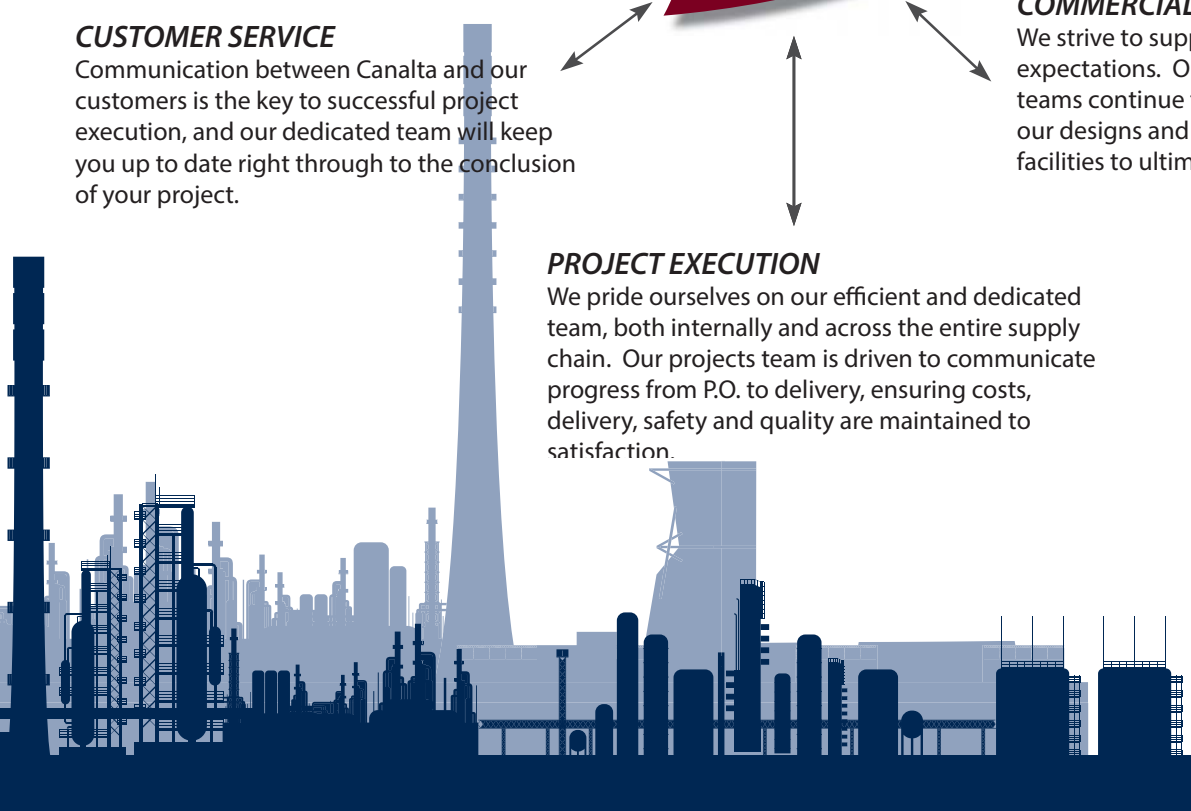
We have expertise in all areas of our products, manufacturing process and design codes. You can rest assured that our products will always exceed your technical expectations and we pride ourselves on communicating these requirements to our customers and supply chain.

COMMERCIAL SUPPORT

We strive to support customer budget expectations. Our design and production teams continue to improve the efficiency of our designs and evolve our manufacturing facilities to ultimately support our customers.

PROJECT EXECUTION

We pride ourselves on our efficient and dedicated team, both internally and across the entire supply chain. Our projects team is driven to communicate progress from P.O. to delivery, ensuring costs, delivery, safety and quality are maintained to satisfaction.



Product Applications

FROM WELLHEAD TO CONSUMER, D.P. PRODUCTS FOR ANY APPLICATION

CANALTA FLOW MEASUREMENT recognises the need for flexibility when bringing differential pressure products to market. We are proud to offer a complete line-up of high quality meters, tubes, parts and accessories, and the technical expertise needed to support it. Whether the client's primary objective is budget, space, pressure recovery/reduction, sour high pressure fluids or indeed any other challenging application, the solution is within the Canalta family of products.

CANALTA DIFFERENTIAL PRESSURE PRODUCTS are currently in service on every continent and in several off-shore sites. We have provided high quality, cost-effective flow measurement equipment to state-owned enterprises, the private sector and PPPs in a variety of industries, from oil and gas to food service.



**Sub-Sea Facilities • Offshore Production Platforms • FPSO
LNG Loading and Unloading • Hub Terminal • City Gates
Crude Oil & Gas Production • Refined Products Pipelines
Gas Underground Storage • Gas Pipelines • Bulk Test Separation
Natural Gas Production • Gas Compression
Liquid and Gas Refinery Plants • Liquid and Gas Processing Plants**



Orifice Plates

Canalta has been a trusted supplier of AGA-3 / API 14.3 and ISO 5167 compliant orifice plates for years. We stock a wide selection of standard concentric universal orifice plates for gas and liquid flow measurement in both 304 and 316 stainless steel. These units are perfect for any Single or Dual Chamber Orifice Fitting.

Paddle plates for use with Orifice Flange Unions and orifice plates for special applications are available. Canalta also supplies orifice plates in exotic materials, such as Monel™, Inconel™ and Hastelloy™.

When accuracy and certainty count, Canalta can provide comprehensive Orifice Plate Inspection Reports complete with calibration certificates and mill test reports.

Line Sizes 2" through 60"

Plate Materials SS304L, SS316L, Duplex, Super Duplex, Monel™, Inconel™, Hastelloy™, Special

Types Paddle, Universal, Standard, Vented, Eccentric, Segmental, Counter-bored, Quadrant-bored



Visit us online at www.canaltaflow.com

Orifice Plate Seals

Our innovative orifice plate seal designs provide industry leading bypass leak protection and offer our customers both longer service life and lower replacement costs.

The durable Type "K" Seal Assembly ensures exact and repeatable concentricity, less seal swell and minimizes damage during insertion. The combination of a stainless steel retaining ring and HNBR elastomer seal results in superior sealing capability at one third the replacement cost of other seals.

Canalta's Teflon Snap Seal provides positive plate sealing in the harshest of process environments without the use of metal clips or retainers. This unique design minimizes permanent compression and distortion, extending the service life of the seal.

Canalta also supplies a selection of legacy and competitor replacement seals, and our design engineers will work to custom design and manufacture purpose-built seals for unique or special applications.



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Orifice Flange Unions

Whether you are taking first measurements out of the well or simply restricting flow, Canalta supplied Orifice Flange Unions represent quality and accuracy at a competitive price point. These units are built to meet or exceed the ASME B16.5 Flange Piping Code, as well as to comply with the latest editions of AGA-3 / API 14.3 and ISO 5167 for effective flow measurement.



Line Sizes 1" through 60" (larger on request).

Pressure Ratings 150# through 2500# ANSI (higher on request).

Flange Materials Low Temp. Carbon Steel, High Temp. Carbon Steel, Stainless Steel, Duplex, Super Duplex, Special.

Studs / Nuts / Jackscrews CS, SS. (Coatings: Natural, Xylan, PTFE, Hot Dip Galvanised, Zinc Plated).

D.P. Taps NPT, Flanged, Valve.



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Single Chamber Orifice Fittings



Canalta's Single Chamber Orifice Fitting incorporates the classic quick-change fitting design and adds HNBR O-ring seals for superior sealing capability. Built to meet or exceed ASME and ANSI specifications, as well as to comply with the latest editions of AGA 3 / API 14.3 and ISO 5167, these units are available in a wide variety of configurations, sizes and materials.

- *Bubble-tight HNBR O-ring seals*
- *Telemeter taps as an option*
- *Pinion gear operation on large sizes*
- *Field adjustable eccentricity on large sizes*
- *Full parts & maintenance support*

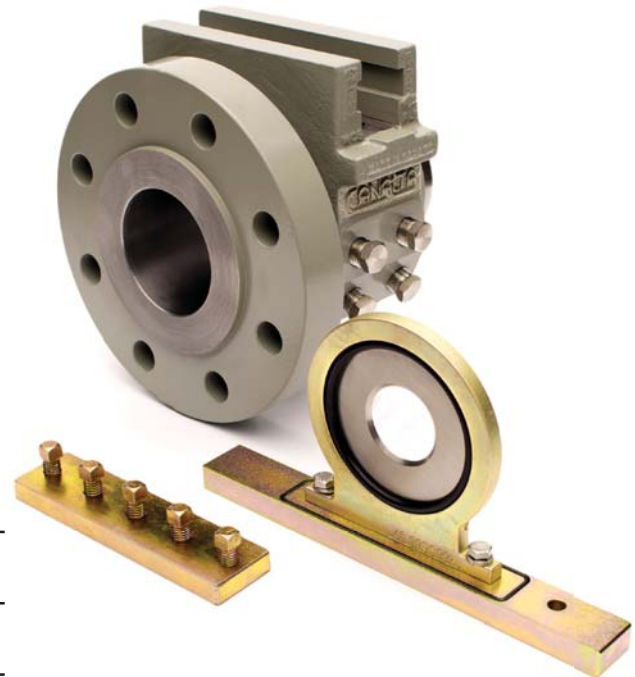
Line Sizes 2" through 48" (larger on request).

Pressure Ratings 150# through 2500# ANSI (higher on request).

Body Materials Low Temp. Carbon Steel, High Temp. Carbon Steel, Stainless Steel, Duplex, Super Duplex, Special.

Internal Parts AISI 4130 Carbon Steel, 316 or A351 CF8M, Duplex, Super Duplex, Special.

D.P. Taps NPT, Flanged, Valve.



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Dual Chamber Orifice Fittings

The Canalta Dual Chamber Orifice Fitting is a high quality, high accuracy orifice fitting that allows for easy orifice plate changing or inspection without depressurizing the flow line. Proven measurement principles and field repairability make the Dual Chamber Orifice Fitting a reliable, cost-effective solution to your flow measurement needs. These units are built to meet or exceed ASME and ANSI specifications, as well as to comply with the requirements of the latest editions of AGA 3 / API 14.3 and ISO 5167.

- **No line depressurizing required**
- **Bubble-tight HNBR O-ring seals**
- **Field adjustable eccentricity**
- **Effective soft seat option**
- **Full parts & maintenance support**

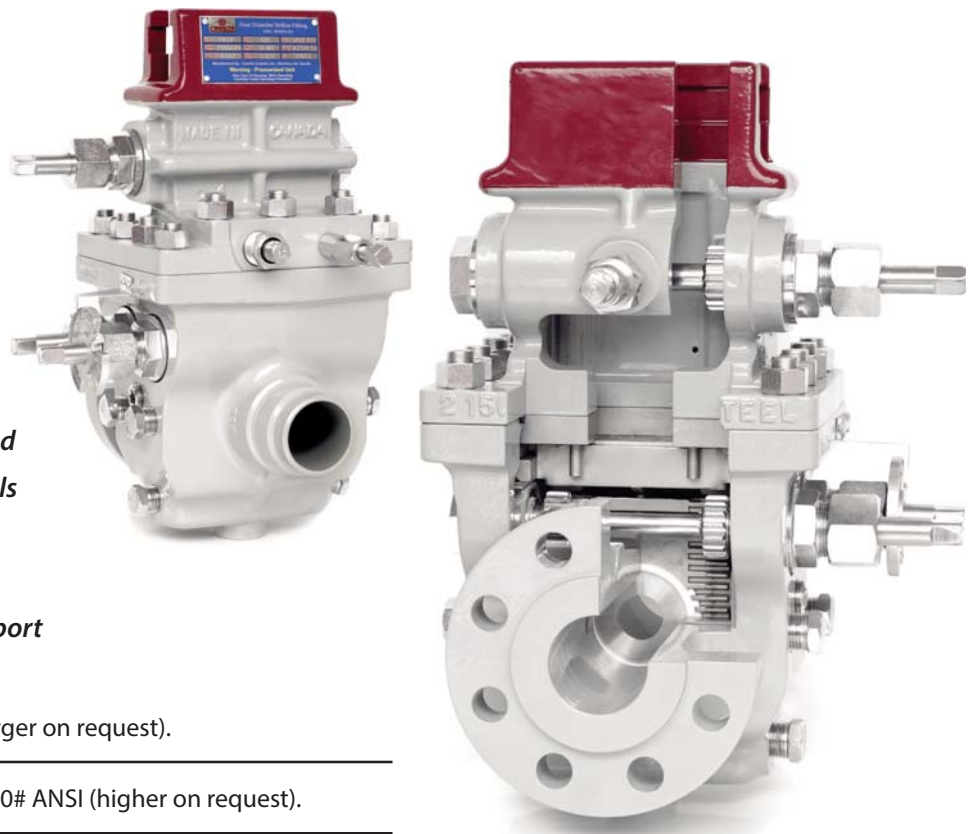
Line Sizes 2" through 48" (larger on request).

Pressure Ratings 150# through 2500# ANSI (higher on request).

Body Materials Low Temp. Carbon Steel, High Temp. Carbon Steel, Stainless Steel, Duplex, Super Duplex, Special.

Internal Parts AISI 4130 Carbon Steel, 316 or A351 CF8M, Duplex, Super Duplex, Special.

D.P. Taps NPT, Flanged, Valve.



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Orifice Fitting Parts

When you are in the market for parts, trust the **OEM**. The quality of Canalta Orifice Fitting Parts and Accessories is our top priority. Our standard zinc-plated 4130 carbon steel internals and 316 stainless steel internals offer superior corrosion protection and resistance to sulfide or hydrogen induced cracking, providing reliability and performance over a long service life. Duplex stainless steel is also available.

Our Orifice Fitting Repair Kits include a full complement of orifice fitting parts, allowing for a complete rebuild of the orifice fitting or replenishment of spare parts inventory. All kits contain high grade HNBR internal seals and are packaged in a sturdy resin case for easy storage or transport.



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DBB Orifice Fittings

The Canalta DBB Orifice Fitting brings the unmatched safety of double block and bleed functionality to the already exceptional quality and performance of the Canalta lineup of orifice fittings.

TWO VALVES SEPARATE THE OPERATOR FROM THE FLOW LINE

No need to block in the meter run with multiple ball valves. With separate equalization and venting for the upper and middle chambers, toxic or high pressure emissions through the top, putting personnel in danger, are virtually impossible in the event of lower valve failure. Designed after HSE HSG 253 Cat 2 Isolation, and built to meet or exceed ASME and ANSI specifications, as well as to comply with the latest editions of AGA-3 / API 14.3 and ISO 5167.

- ***PROTECTION FROM HIGH PRESSURE & TOXIC FLOW MEDIA***
- ***ACCURATE FLOW MEASUREMENT***
- ***HIGHEST QUALITY MANUFACTURING***

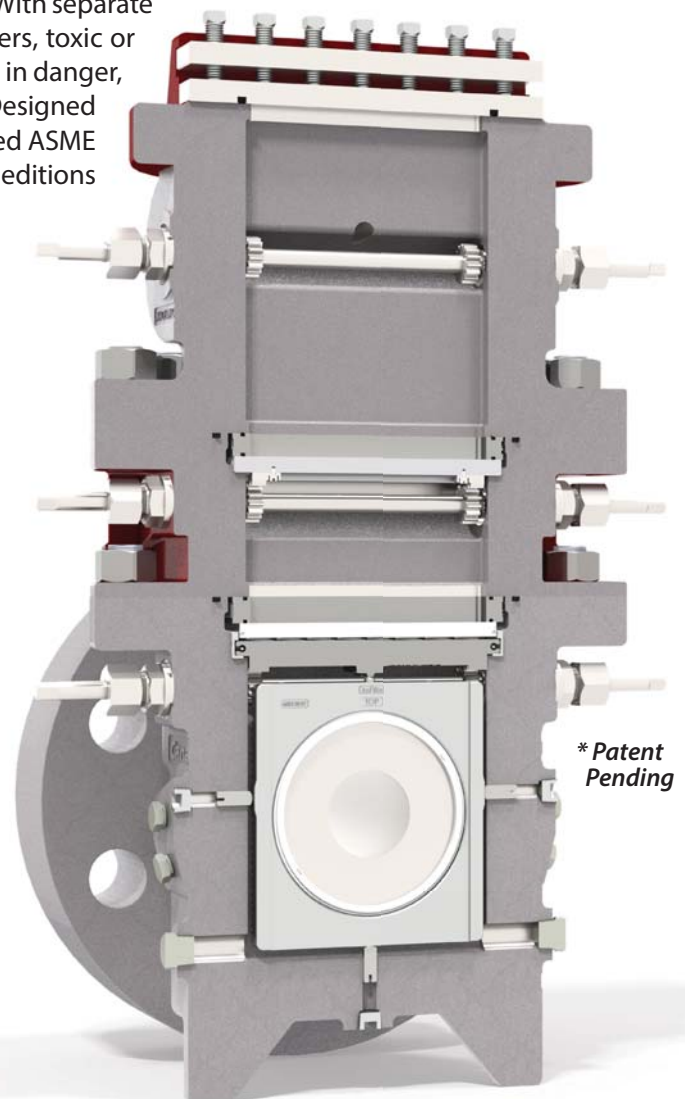
Line Sizes 2" through 48" (larger on request).

Pressure Ratings 150# through 2500# ANSI (higher on request).

Body Materials Low Temp. Carbon Steel, High Temp. Carbon Steel, Stainless Steel, Duplex, Super Duplex, Special.

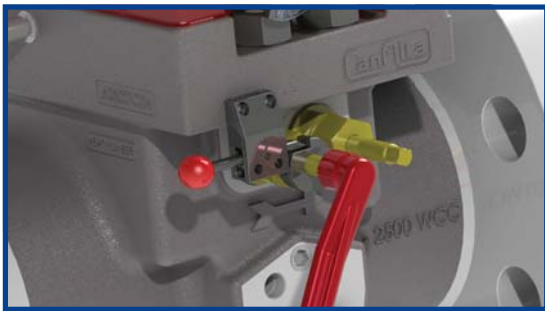
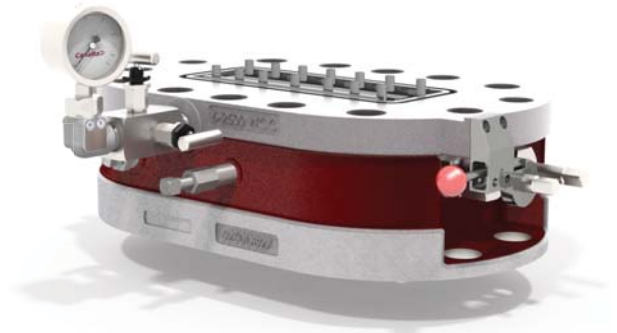
Internal Parts AISI 4130 Carbon Steel, 316 or A351 CF8M, Duplex, Super Duplex, Special.

D.P. Taps NPT, Flanged, Valve.



Retrofitting Orifice Meter Installations

provides added safety without the added cost of full equipment replacement. The DBB's middle section can be installed on any existing Canalta Dual Chamber Orifice Fitting, or custom fabricated for any Daniel® Senior® Orifice fitting, bringing double block and bleed functionality to orifice meters already in place.



Automatic Valve Latches

can be fitted to one or both of the valve operating shafts. Requiring a manual reset before the valve may be opened, this security accessory provides an added opportunity for safety assessment and operator awareness. The ability to padlock the latch also brings additional security to fiscal flow measurement applications.



Pressure Gauges

on the upper and middle chambers help the operator assess equipment status. Local pressure readout can indicate valve failure, vent blockages and other dangerous system malfunctions. For added protection, Canalta Gauge Pro blowout preventers are installed between each of the gauges and the fitting body.

HNBR O-ring Seals

on the body sections and seal bar come standard with all Canalta DBB Orifice Fittings. This feature eliminates nuisance gasket maintenance and clamping bar screw breakage, while providing superior sealing capability. The O-rings incorporated are standard shelf sizes and can be supplied in a wide variety of compositions. Gaskets are also available and can be used when preferred or required.



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Meter Runs

Whether the size is 2" or 30", high or low pressure, wet, dry or corrosive service, we can put together a custom meter run package that meets your specification or performance needs and perfectly matches your Canalta Orifice Fitting. We've been working to AGA-3 / API 14.3 and ISO 5167-1 specifications for over fifteen years. Skilled technicians, engineers and inspectors work together to manufacture first-rate meter tubes out of pipe carefully selected and prepared with the appropriate surface requirements, roundness and I.D. tolerances. Hydrostatic test results are included as a standard. PWHT stress relief, ultra-sonic and liquid dye penetration test results are available on request. Our rigorous inspection regime and comprehensive documentation mean you can be sure your meter run is reliable, exceptionally accurate and ready for service.

*You trust Canalta at the orifice plate.
When accuracy counts, trust Canalta
up and downstream, too.*



Let the experts design and fabricate your Meter Runs and Flow Conditioning Solutions to meet your exact performance needs or specification requirements. Options are available for:

- *Flow Conditioning Accessories*
- *Stress Relief & Special Testing*
- *Flange Facings*
- *Tube Ends*
- *Paint & Special Coatings*
- *Special Materials*
- *Downstream Outlets*
- *Special Gaskets & Seals*

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Flow Conditioning Accessories

Contour™ Flow Conditioning Solutions by **Canalta**

Canalta Flow Measurement produces a selection of essential flow conditioning accessories to ensure your fluid flow has the right profile when it reaches the metering element.

Our Contour™ lineup of flow conditioners maximize metering accuracy while significantly reducing upstream pipe length requirements. This compact design fully develops the flow profile, eliminating swirl and turbulence, all without creating a significant pressure drop. Accurate flow metering is possible in a host of line configurations, including multiple elbows and tee intersections.

The resilient one-piece design in 316 stainless steel makes these flow conditioners suitable for all applications, including extremely corrosive environments. Duplex stainless steel is also available.

Canalta also offers the Contour™ Vane, a traditional 1998 uniform concentric 19-tube bundle flow straightener manufactured to AGA 3 / API 14.3 and ISO 5167-1 specifications.

All Contour™ Flow Conditioners and Straightening Vanes are available in either flanged or pinned configuration, for pipe sizes 2" through 36" in all standard standard schedules, with custom schedules by special order.



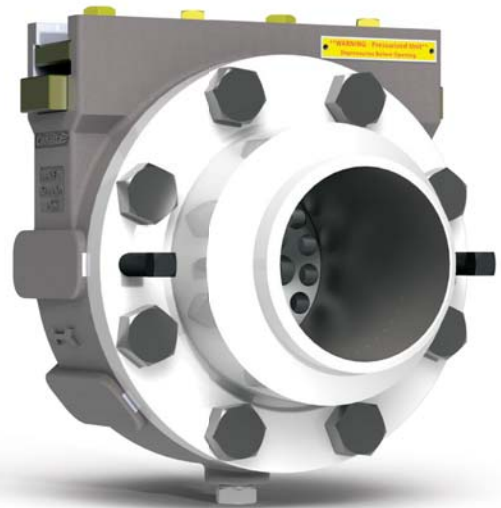
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Flow Conditioner Housings



The **Contour™ FCH Flow Conditioner Housing** brings the ease, safety and practicality of inspecting and changing an orifice plate to the flow conditioner. This long overdue concept allows for regular inspections of the flow conditioner without breaking apart the flow line. The Contour FCH allows the operator to easily perform flow conditioner inspection and maintenance on the same regular schedule as the orifice plate. With this innovative, newly patented design, you can be sure that your flow profile has not been degraded by damage, blockage or residue accumulation.

- *Effective in all flow measurement applications where flow profile is critical for accuracy.*
- *Maintains flow conditioner alignment and positioning despite replacement or debris impact.*
- *Prevents bypass leakage.*
- *Allows for easy flow conditioner inspection, removal and replacement.*
- *Effective in both retrofits and new projects.*
- *Available with a variety of flow conditioner geometries, including Zanker, Contour™ K5, Spearman and others.*



*US Pat. 7,806,145



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Flow Nozzles

Canalta Flow Nozzles offer flow medium versatility similar to Venturi Meters at a price point that addresses tight budget constraints. The gentle sweep of the inlet results in greater flow capacity and less overall pressure loss compared to other D.P. measurement techniques. These units are particularly effective in high velocity flow scenarios. Canalta Flow Nozzles require virtually no maintenance due to a lack of critical edges or protrusions subject to wear and erosion.

- *Cost-effective*
- *Excellent wear and erosion performance*
- *High flow capacity*
- *Reduced pressure loss*
- *0.25% uncertainty achievable*



Line Sizes 2" through 36" (larger on request).

Pressure Ratings 150# through 2500# ANSI.

Materials Low Temp. Carbon Steel, High Temp. Carbon Steel, Stainless Steel, Duplex, Super Duplex, Special.

Types Flanged, Weld-in, Weld Ring, Throat Tap, Special



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Venturi Meters

From gas to slurry, Venturi Meters are capable of effective flow measurement across a variety of fluid compositions. These maintenance-free units are particularly suited to measurement scenarios where erosion and pressure recovery present a challenge.

Canalta Flow Measurement offers forged, cast and fabricated Venturi Meters in a wide variety of sizes, materials and pressure ratings, all designed and manufactured in accordance with ISO-5167, ASME B16.5 and ASME MFC 3M.



- *Less overall pressure loss*
- *Shorter upstream run requirements*
- *Excellent wear and erosion performance*
- *Wide flow medium versatility*
- *0.25% uncertainty achievable*

Line Sizes 1" through 60" (larger on request).

Pressure Ratings 150# through 2500# ANSI.

Materials Low Temp. Carbon Steel, High Temp. Carbon Steel, Stainless Steel, Duplex, Super Duplex, Inconel™, Special.

Exit Angle Long Form, Short Form, Truncated.

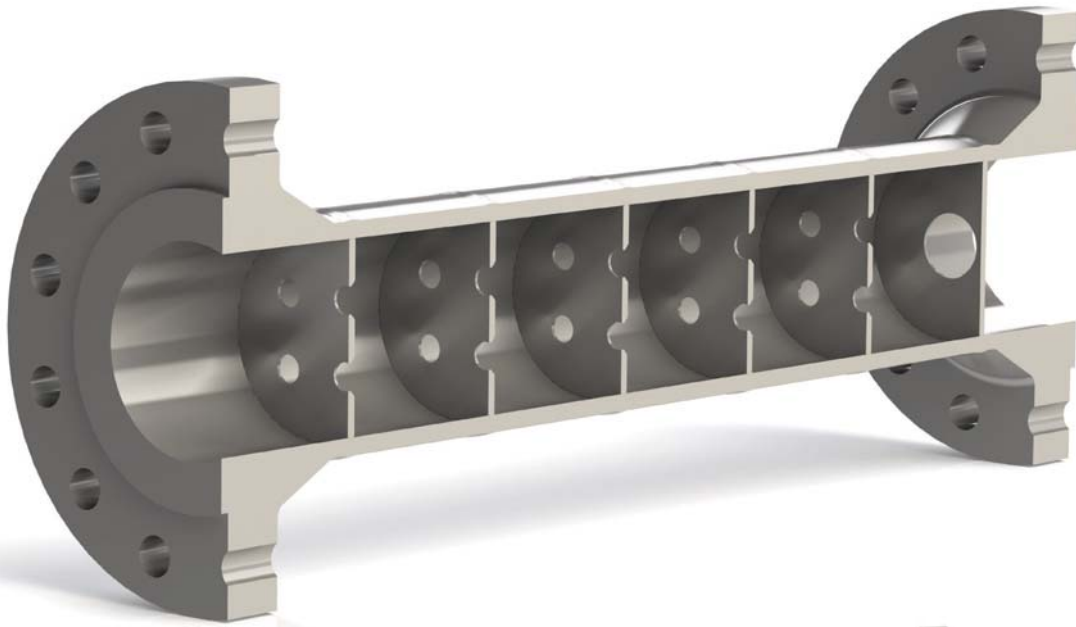
D.P. Taps NPT, Flanged, Valve, Piezometric



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Restriction Orifice Plates & Spools

Canalta offers Restriction Orifice Plates in single plate, multi-hole plate and multi-plate spool configurations. Our experienced team supplies orifice bore, noise and deflection calculations in accordance with RW Miller for every plate delivered. Available in a wide variety of sizes, materials and pressure ratings, you can rest assured that your pressure reduction needs are in capable hands.



Line Sizes 1" through 60" (larger on request).

Pressure Ratings 150# through 15000# ANSI.

Materials Low Temp. Carbon Steel, High Temp. Carbon Steel, Stainless Steel, Duplex, Super Duplex, Special.

Plate Materials SS304L, SS316L, Duplex, Super Duplex, Monel™, Inconel™, Hastelloy™, Special.



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Quality Assurance

PROVIDING SUPERIOR PRODUCT TO EVERY PROJECT

Delivering superior orifice fittings and exceptional value has been our core business for over fifteen years, and today **Canalta Flow Measurement** is committed to total customer satisfaction through continuous improvements to the quality of the products, processes and services we deliver. Our Quality Management System is both ISO 9001:2015 and Alberta Boilers Safety Association (ABSA) certified. Each member of the Canalta team is working to ensure that our customers are receiving first class industrial measurement and control equipment. Each Canalta measurement device undergoes full function, hydrostatic and pneumatic pressure testing to prevent imperfect fittings from reaching service. We also make additional NDT results available, including radiography, ultra-sonic testing and liquid dye penetration. Production and testing occur within ASME 16.34 and 16.5 guidelines.

Our commitment to quality extends beyond our production facilities. We communicate Quality Assurance to our customers through comprehensive documentation packages that include AGA-3 or ISO 5167 inspection reports, mill test reports and other critical details. We also maintain comprehensive documentation processes to communicate and address quality issues with our suppliers.

From our engineering team and journeyman instrumentation technicians to our skilled assembly and sales teams, everyone at Canalta is working hard to ensure that our industrial measurement and control equipment is the best available.





AGA 3 / API 14.3

ISO 5167-1

ASME B31.3

ASME B16.34

ASME B16.5

NACE MR0175

ISO 15156

ISO 9001

ASTM Specifications

ABSA Certified

FPAL Registered

PED 2014/68/EU

**MAJOR CANALTA OFFICES IN
CANADA • USA • ARGENTINA • UK • INDIA • KOREA**



Find a list of our global distribution partners at www.canaltaflow.com/global

Global Presence

LEVERAGING INTERNATIONAL ASSETS FOR EFFICIENCY, QUALITY AND VALUE

Though ***Canalta Flow Measurement*** may have started in a small shop in western Canada, recent years have seen the company undertake aggressive international expansion in pursuit of larger markets, greater efficiencies and better value for our customers.

Canalta's production process integrates international supply and delivery scheduling with in-house technical design and quality control capacities located on three continents. This allows us to offer our customers the economic benefits of offshore supply without sacrificing delivery times or the quality of our product.

Our direct sales offices are positioned to serve the global market, and global distribution of Canalta D.P. products is organized to respond quickly to our customers' needs around the world. Our customers also benefit from an international network of skilled and experienced firms that are ready to represent and support Canalta product on a global scale.



Service Offerings

PRODUCT SUPPORT IN-HOUSE AND IN THE FIELD

Canalta brings its long experience and expertise in differential pressure flow measurement to aftersales service offerings both at our primary manufacturing facility in Canada, and at project sites anywhere in the world. Our skilled, certified technicians provide effective solutions and fast turnaround means minimal down time.

- ***FULL AGA / ISO INSPECTIONS***
on new and existing D.P. measurement elements and meter runs.
- ***COMPLETE REBUILDS AND REPAIRS***
of all orifice fitting models and meter runs, with full parts kits to avoid late startups.
- ***RE-FIT SERVICES***
such as DBB re-fits, operating shaft orientation changes, flow conditioning re-fits and orifice plate eccentricity realignment.
- ***FULL TRAINING***
in the proper operation and maintenance of Canalta D.P. flow measurement equipment.



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Affiliates

OTHER MEMBERS OF THE CANALTA CONTROLS GROUP



COMBUSTEX

BURNER IGNITION & CONTROL SYSTEMS



Combustex Burner Ignition and Control Systems develops and manufactures forward thinking combustion control technologies that increase safety and process control, reduce fuel waste and help operators comply with the latest codes regulations. Oil and gas operators around the world are increasingly recognising the need for integrated combustion elements that improve the efficiency of their operations while, at the same time, minimizing fire and explosion hazards.

Combustex Burner Management Systems, Pilot Pro™ Ignition Assemblies and Series 100 Control Valves bring innovation and control to any industrial gas-fired heater application.

KEYSOURCE

Process Control Equipment



Keysource Process Control Equipment offers a one-stop shop for new and aftermarket process control equipment. With more than 25 years of instrumentation experience, the Keysource team has the expertise to source the optimal solution for your specific application. Our regional position means that we often have equipment on its way to you tomorrow rather than the 20 weeks quoted by the OEM.

From flow computers and precision turbines to reconditioned chart recorders and control valves, Keysource can supply a wide array of equipment for the entire fluid processing and refining industry. We are committed to exceptional customer service, competitive pricing and timely deliveries.

Notes

EXCLUSIVE AGENT



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Canalta

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