

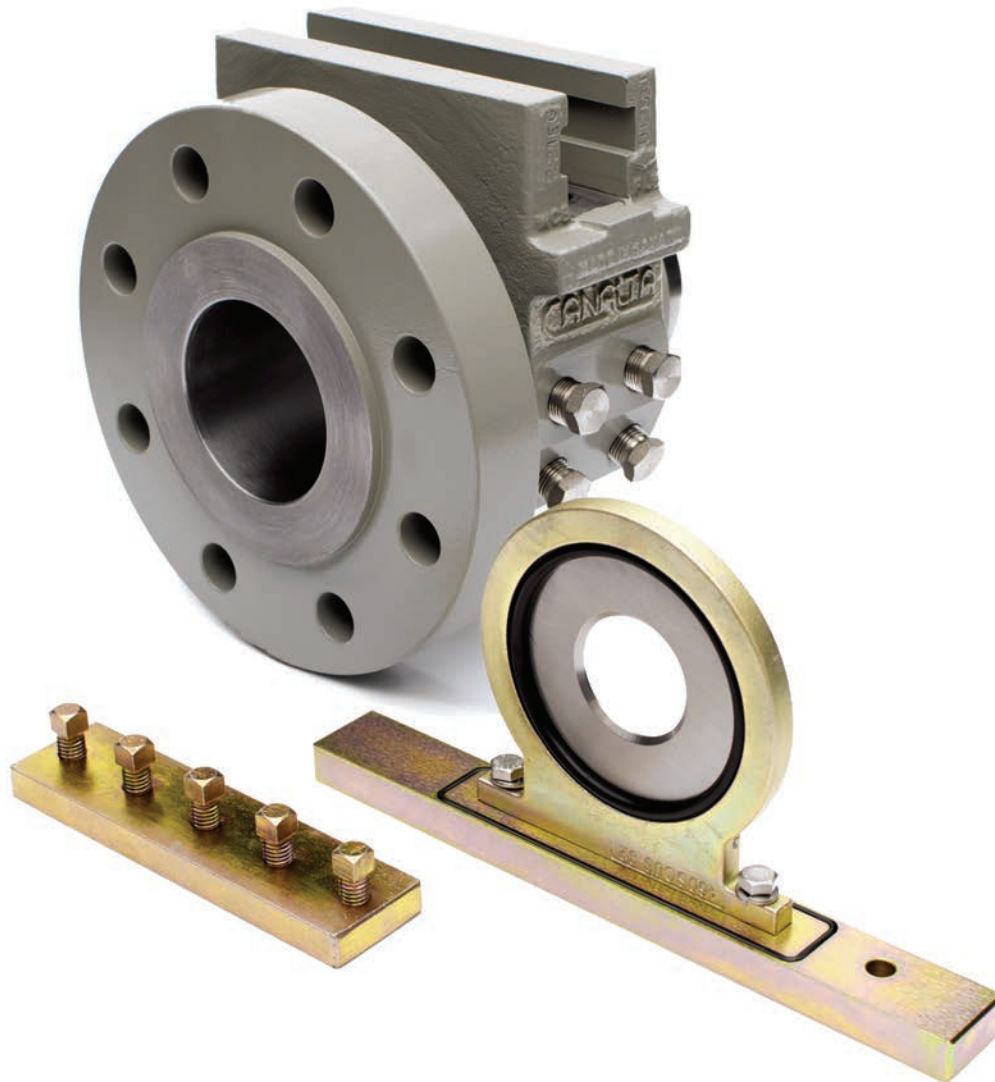
# ***Canalta***

## ***Flow Measurement***

A Canalta Controls Company

---

OPERATIONS & MAINTENANCE



## **The Canalta Single Chamber Orifice Fitting**

***Exceptional Value*** means adding to your ***Bottom Line***  
without sacrificing ***Quality, Service*** or ***Performance***

***Call Us Toll Free: 1-855-CANALTA***

An ISO 9001:2015 registered company

Phone: 403.342.4494

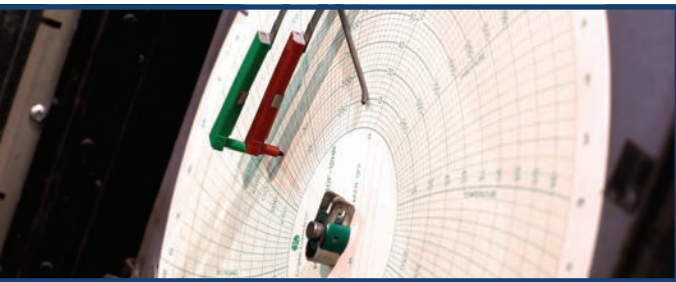
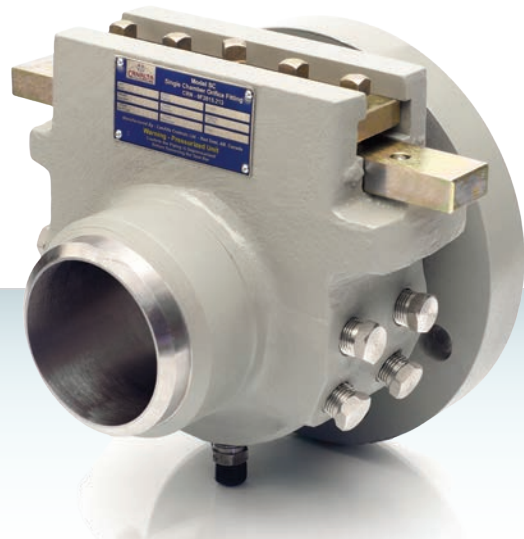
Email: [sales@canaltaflow.com](mailto:sales@canaltaflow.com)

[www.canaltaflow.com](http://www.canaltaflow.com)

---

The **Canalta Single Chamber Orifice Fitting** is a high quality, high accuracy orifice fitting manufactured in a wide selection of sizes and materials. 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. Whatever the application, your process will benefit from Canalta's proven reliability and you can improve your bottom line without sacrificing quality, service or performance.

*Delivering superior orifice fittings and exceptional value has been our core business for over fifteen years.*



Our comprehensive **Quality Management System** includes full function, hydrostatic and pneumatic pressure testing to prevent defective orifice fittings from reaching service. Standard testing comes at no extra charge and includes verifiable pressurization to 150% of working pressure. Additional inspections, such as radiography, ultra sonic and liquid dye penetration, are also available.

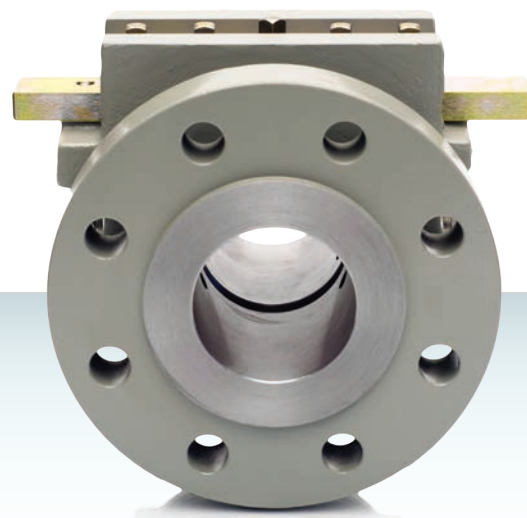
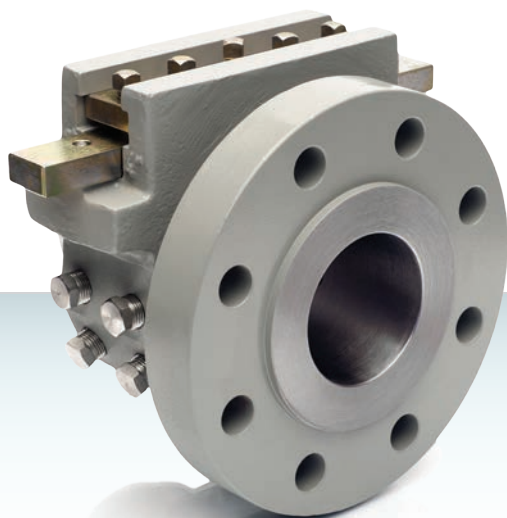


Our unit-specific **Documentation** packages include hydrostatic, seal and function test results as well as material test reports. An AGA 2000 Inspection Report is submitted with every fitting and includes bore tolerance and roughness tests, orifice eccentricity, seal protrusion, plate sealing tests and other details critical to your process integrity.



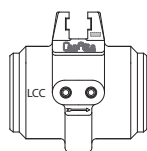
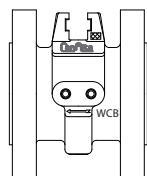
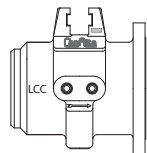
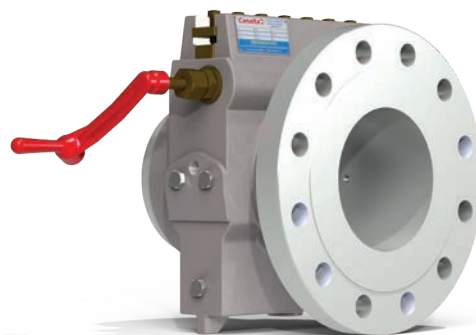
Each Canalta Single Chamber Orifice Fitting receives a standard coating that includes a non-lift oxide primer and fast-drying enamel finish in Canalta Grey. Custom coatings for special environments - maritime, humid, high temperature and others - custom colours and primer only applications are also available.

All Single Chamber Orifice Fittings come standard with **HNBR O-ring seals** on the seal bar. This feature provides you with superior sealing capability while eliminating nuisance gasket maintenance and clamping bar screw breakage. 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.



Single Chamber Orifice Fitting models 8" and larger incorporate a rack and pinion gear system to manage the sizeable weight of large orifice plates and carriers. With this system, plate changing remains quick and easy.

These models also feature fully accessible and adjustable eccentricity of the orifice plate from the exterior of the fitting. Tamper-proof sealing is done on request.



Canalta Single Chamber Orifice Fitting bodies are available in a number of standard and custom end configurations. Some of our most popular arrangements include

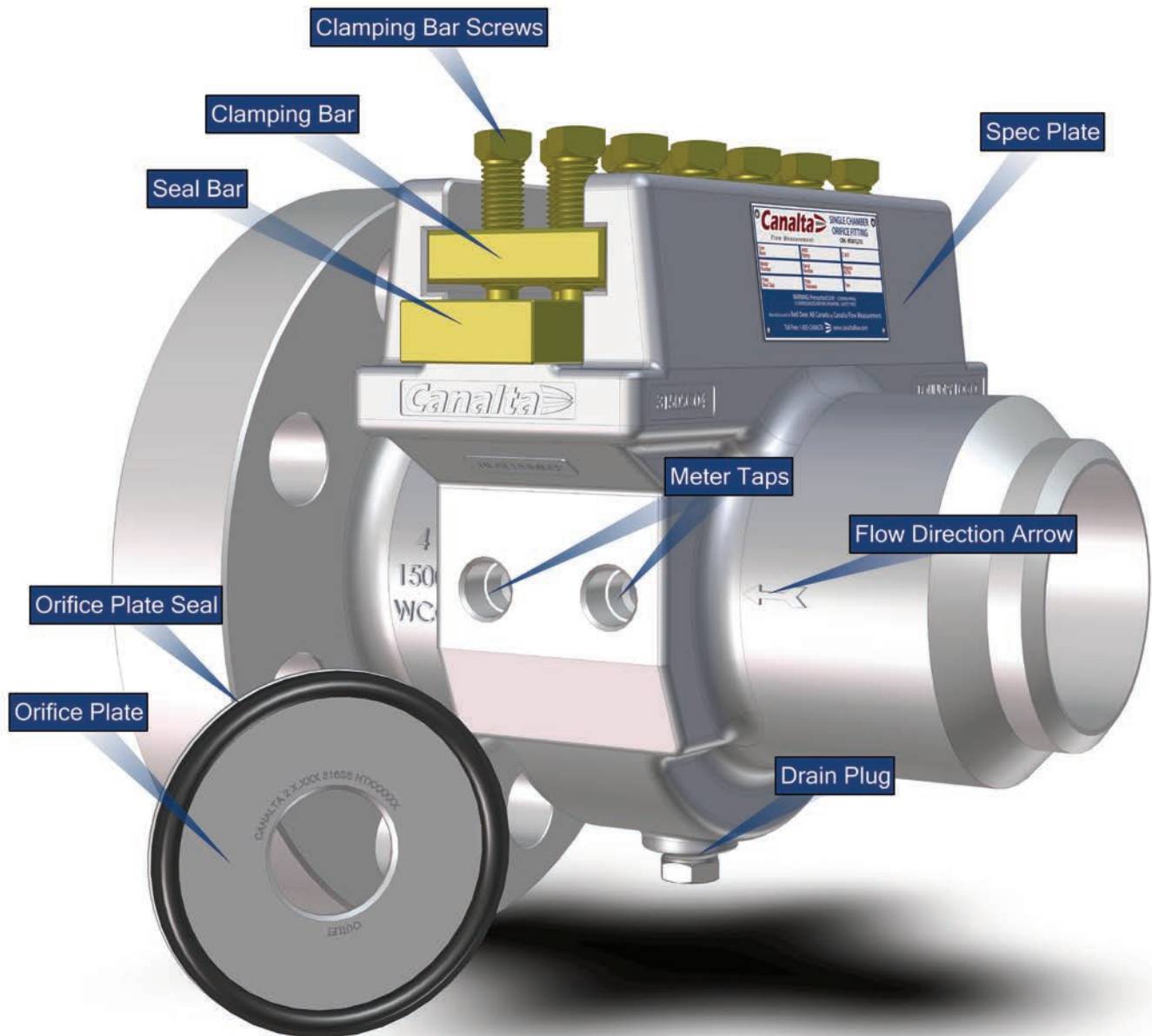
- Flangeneck (welding neck upstream, raised face / RTJ flange downstream)
- Flange X Flange (raised face / RTJ)
- Weldneck both ends

Single Chamber Orifice Fitting Bodies are also available with an extra set of telemetering tap holes on each side as an option.

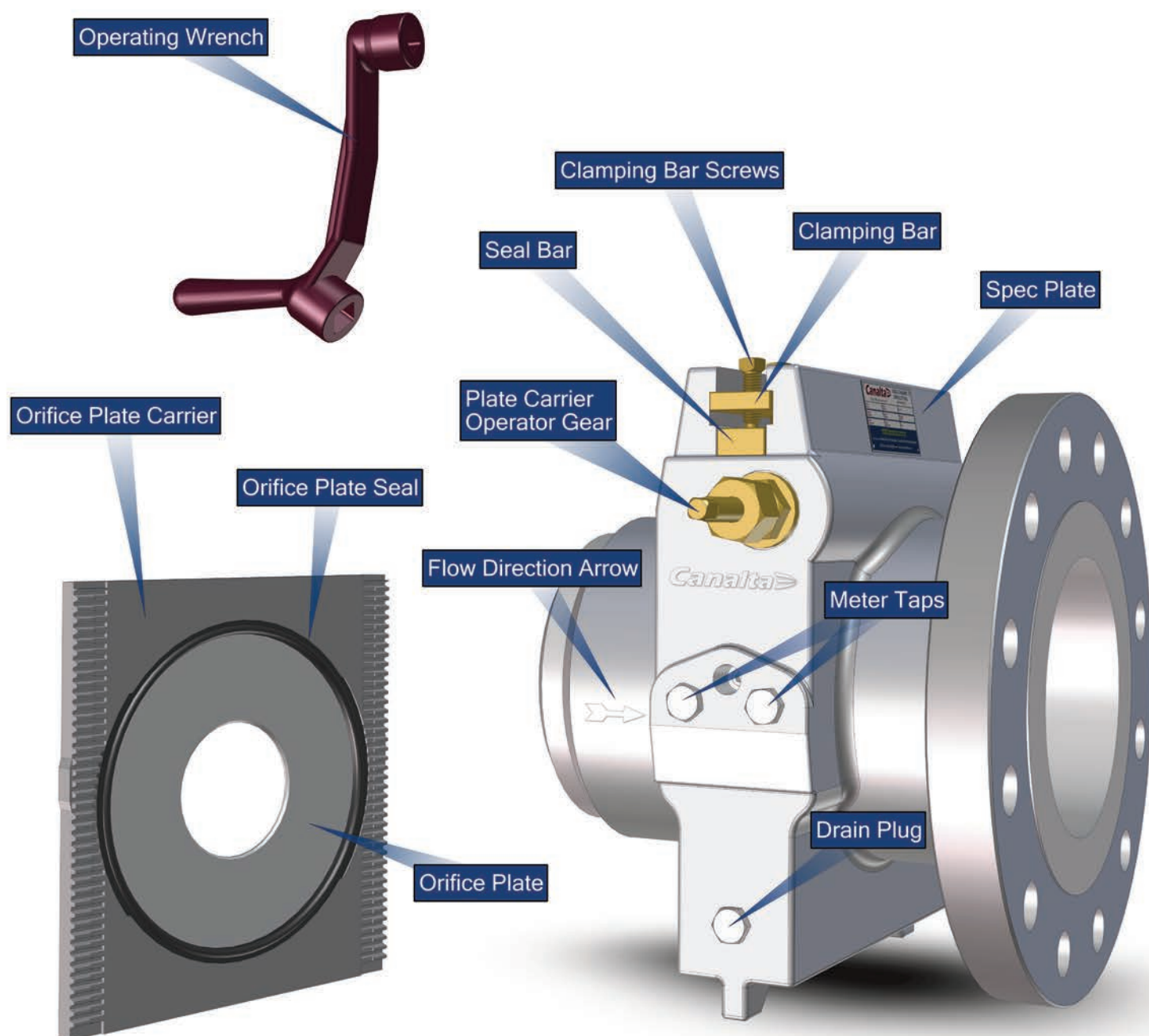


## KEY OPERATING PARTS AT A GLANCE

### 2" - 6" SINGLE CHAMBER MODELS



## 8" - 16" SINGLE CHAMBER MODELS



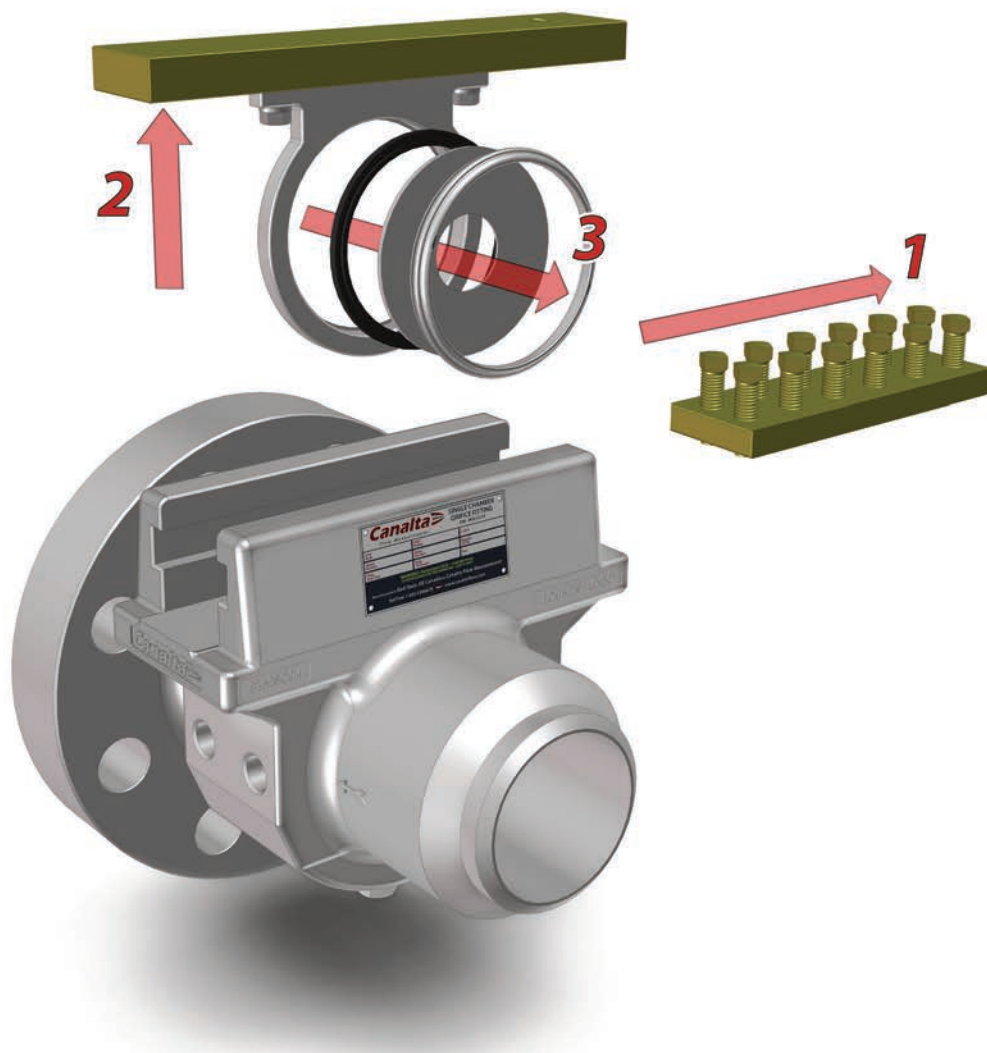
## OPERATIONS & MAINTENANCE

### 2" - 6" SINGLE CHAMBER MODELS

#### TO REMOVE THE ORIFICE PLATE

- a. Ensure that the fitting is completely depressurized.
- b. Loosen the clamping bar screws and remove the clamping bar.
- c. Remove the plate carrier and seal bar unit.
- d. Remove the orifice plate and seal assembly from the plate carrier.
- e. Extract the orifice plate from the seal.

**WARNING:** The unit may be under extreme high pressure. Failure to depressurize the line before attempting to remove the seal bar may result in bodily harm or death. Follow all instructions carefully.

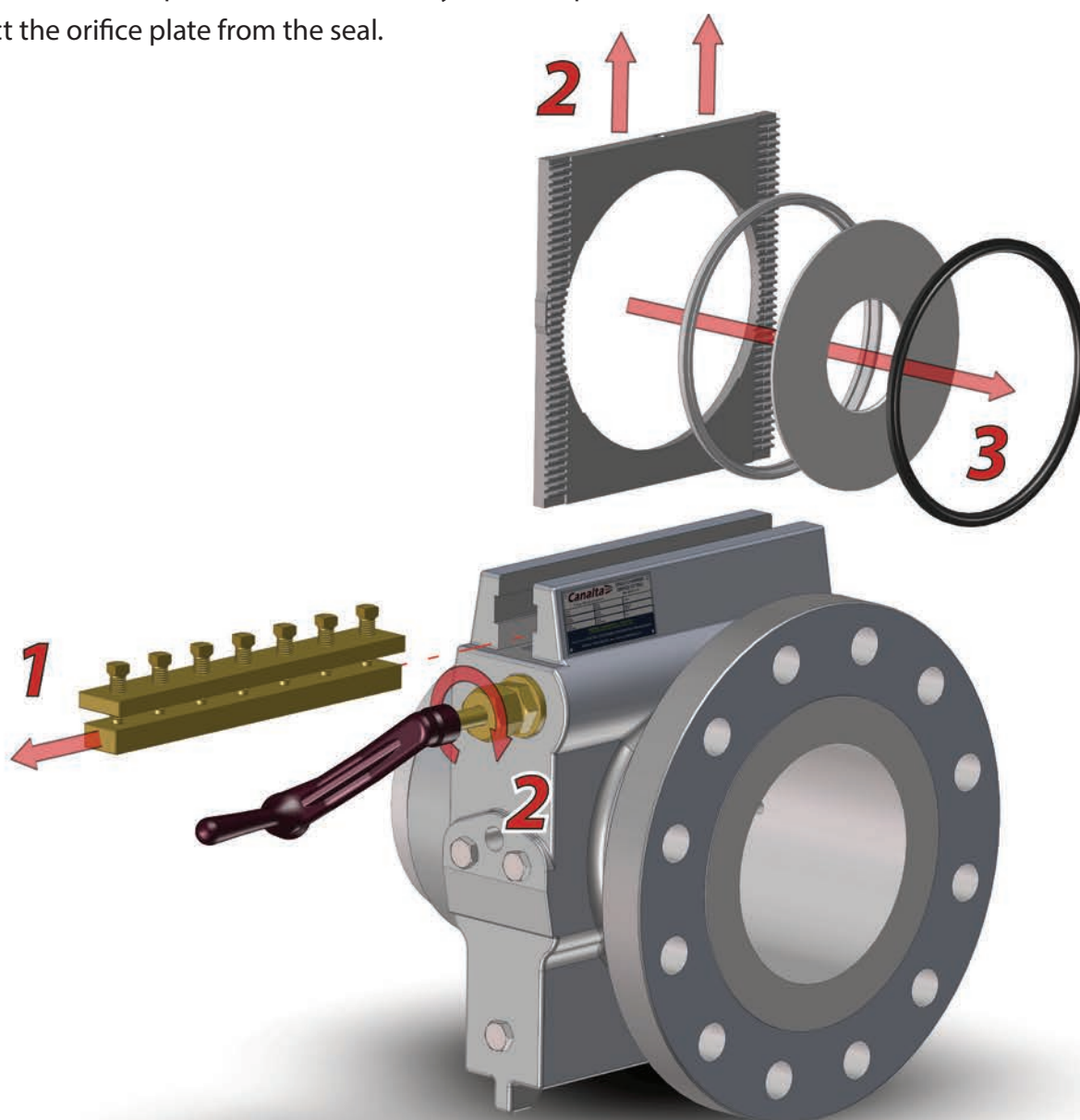


## 8" - 16" SINGLE CHAMBER MODELS

### TO REMOVE THE ORIFICE PLATE

- a. Ensure that the fitting is completely depressurized.
- b. Loosen the clamping bar screws.
- c. Remove the clamping bar and seal bar.
- d. Rotate the plate carrier pinion gear to raise the plate carrier assembly.
- e. Remove the orifice plate and seal assembly from the plate carrier.
- f. Extract the orifice plate from the seal.

**WARNING:** The unit may be under extreme high pressure. Failure to depressurize the line before attempting to remove the seal bar may result in bodily harm or death. Follow all instructions carefully.



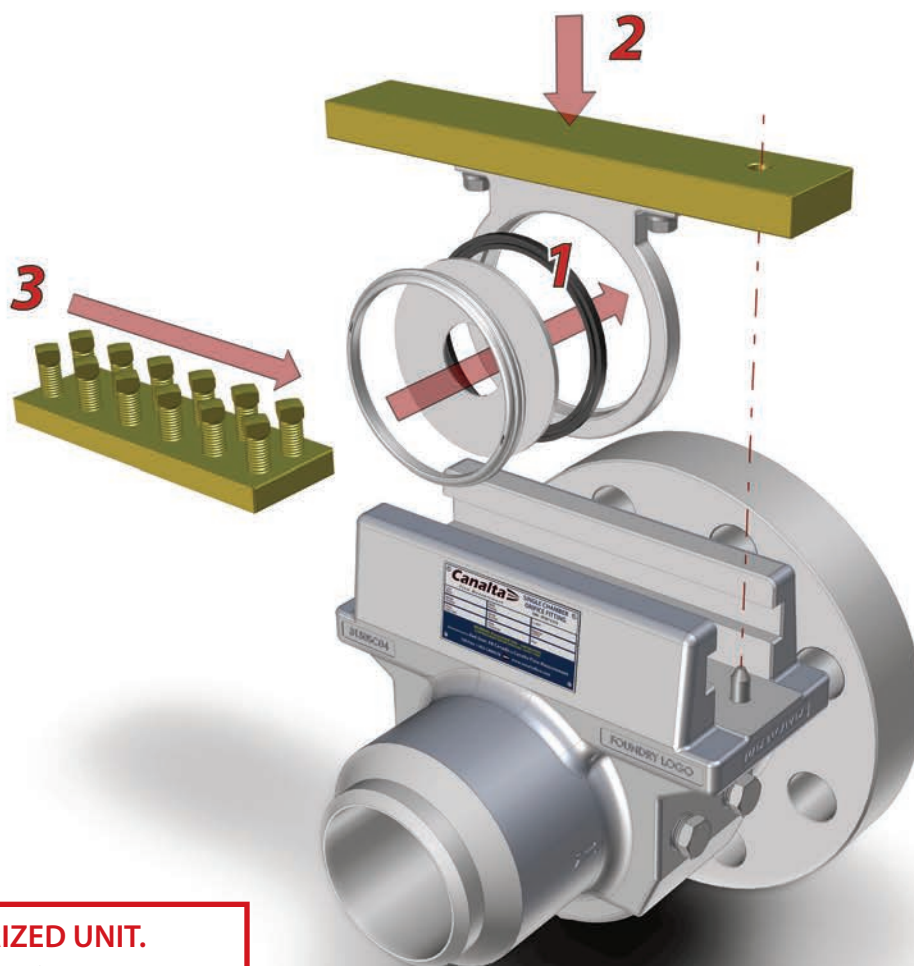


## OPERATIONS & MAINTENANCE

### 2" - 6" SINGLE CHAMBER MODELS

#### TO REPLACE THE ORIFICE PLATE

- A. Reinstall the orifice plate into the seal.
- B. Install the seal assembly into the plate carrier, ensuring that the orifice plate bevel faces downstream.
- C. Check that the seal bar O-ring or gasket is clean and in position.
- D. Replace the plate carrier and seal bar unit while ensuring that the index hole is placed over the seal bar alignment pin.
- E. Slide the clamping bar back into place and tighten the clamping bar screws.
- F. Check that the meter tap and drain plugs are properly tightened.
- G. Repressurize and return the line to service.



**WARNING: PRESSURIZED UNIT.**

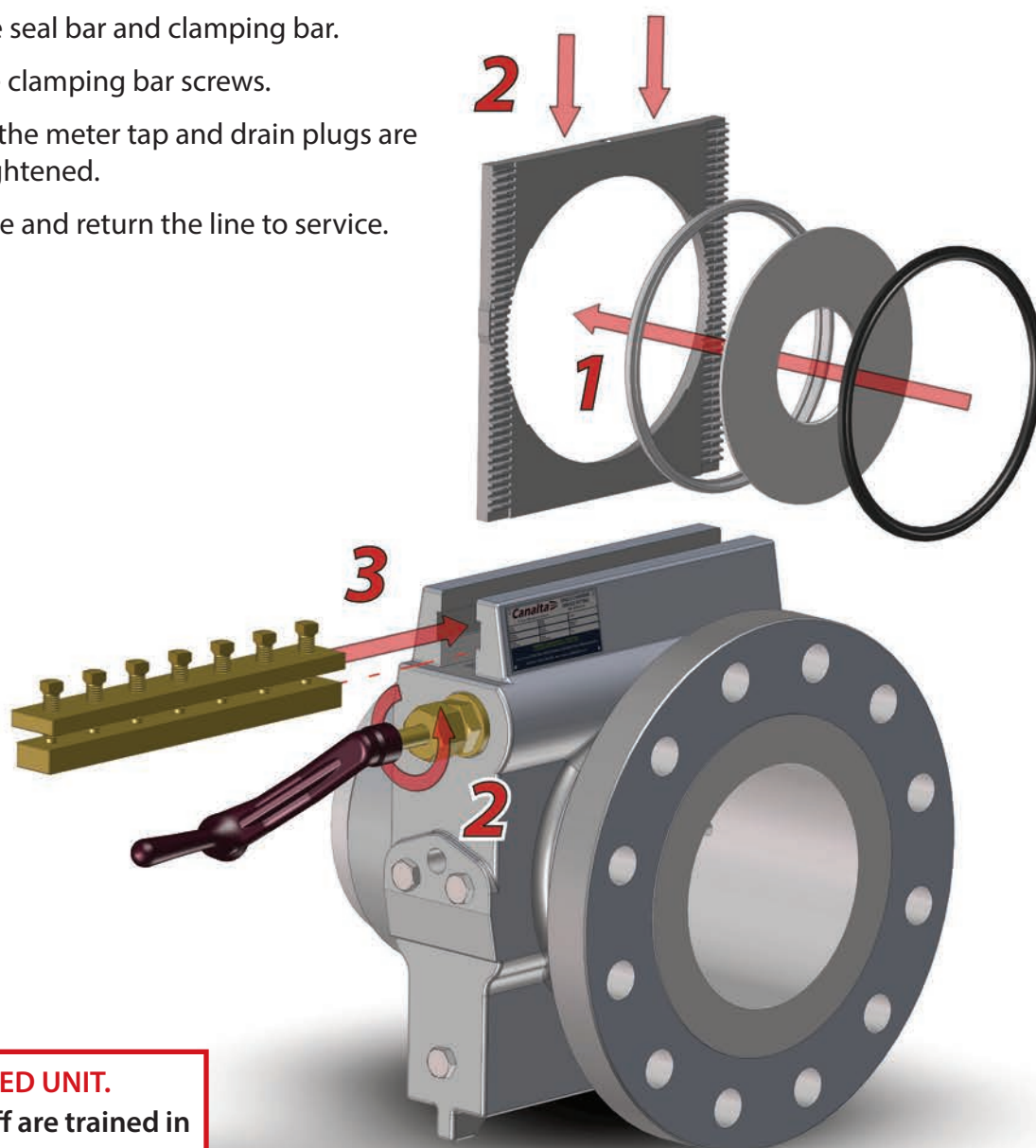
Ensure all operating staff are trained in the safe operation of this and all other pressurized equipment.



## 8" - 16" SINGLE CHAMBER MODELS

### TO REPLACE THE ORIFICE PLATE

- A. Reinstall the orifice plate into the seal.
- B. Install the seal assembly into the plate carrier, ensuring that the orifice plate bevel faces downstream.
- C. Insert the plate carrier assembly into the fitting and lower it using the plate carrier pinion gear.
- D. Replace the seal bar and clamping bar.
- E. Tighten the clamping bar screws.
- F. Check that the meter tap and drain plugs are properly tightened.
- G. Repressurize and return the line to service.



**WARNING: PRESSURIZED UNIT.**

Ensure all operating staff are trained in the safe operation of this and all other pressurized equipment.

## OPERATIONS & MAINTENANCE

### INSTALLATION RECOMMENDATIONS

The Single Chamber Orifice Fitting is typically installed in conjunction with upstream and downstream meter run sections (tubes). This is essential to meet the recommendations of both AGA Report 3 and ISO 5167. To obtain the best measurement results, follow the recommended piping configurations and installation requirements of either of these two standards, as well as the recommendations below.

1. Always ensure that operating staff are competent and properly trained to operate this and all other pressurized equipment.
2. When installing the fitting or meter run, ensure that the flow arrow on the outer surface of the fitting corresponds to the direction of flow in the line.
3. Attention to clearances is essential. Consult the attached dimensional drawings and tables for details. Ensure there is operating clearance above the top of the fitting for removal of the plate carrier. For 8" - 16" Single Chamber models, additional clearance at the sides of the fitting is necessary for pinion gear rotation and operating wrench removal.
4. When used to measure wet gas, the vertical mount is recommended to prevent dam formation against the orifice plate.
5. Instrument tap lines should be installed sloping upwards to the differential pressure measurement instrument. Where this cannot be accomplished, use seal pots to chemically seal the sensing lines eliminate hydrostatic head errors.
6. To avoid damage to the orifice plate, ensure that the orifice plate and plate carrier are removed from the fitting prior to pressure testing the system.
7. Before inserting the orifice plate and plate carrier into the fitting, always ensure that the lower cavity of the fitting is free of debris. If debris has accumulated, remove the lower drain plugs and rod-clean the lower section.

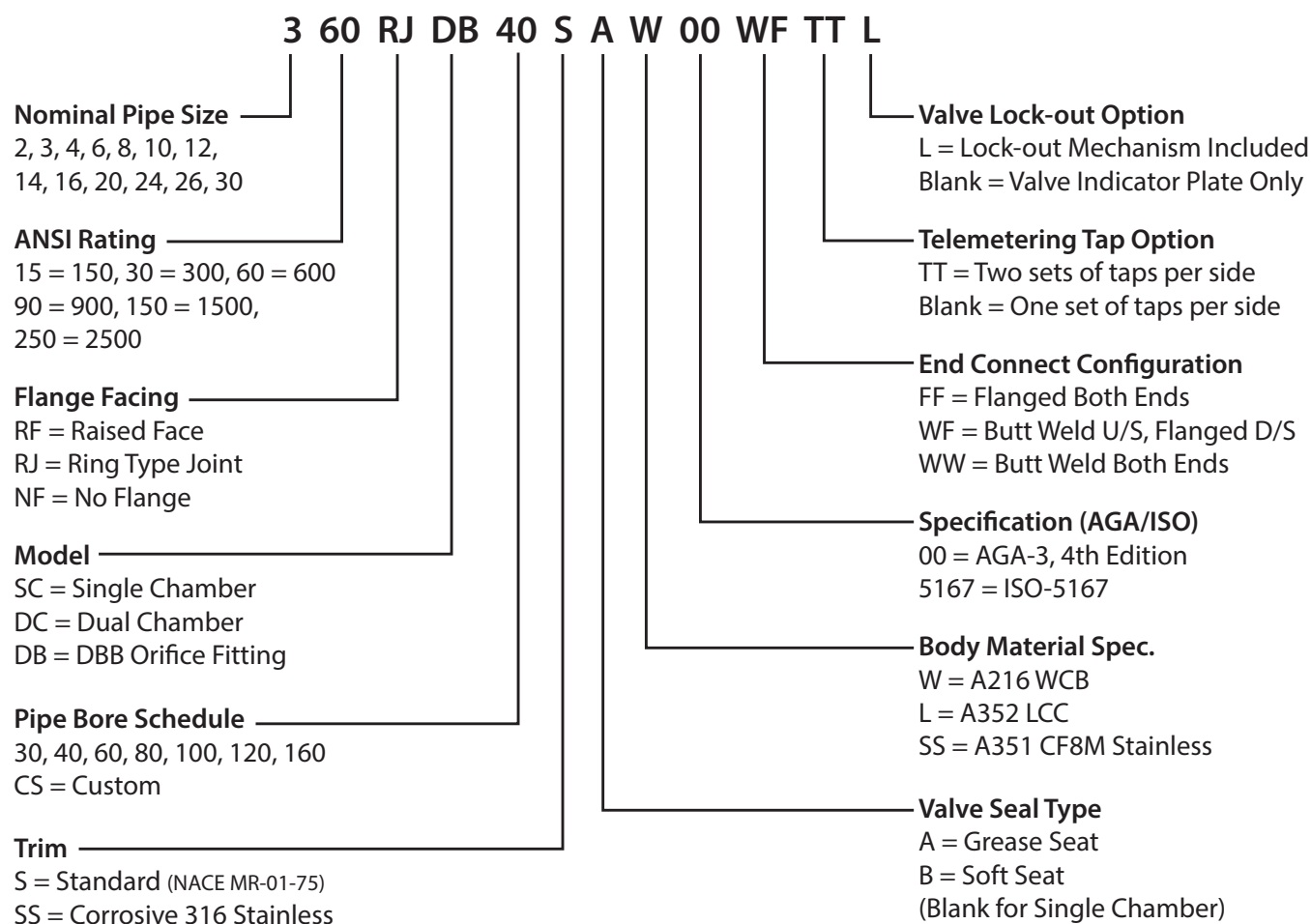
### PRESERVATION & STORAGE

The following measures should be taken to preserve and store all orifice fittings and meter runs that are not currently in service:

- Hydrostatic testing is required before entering service if stored for more than 1 year;
- Apply rust inhibitor every 3-6 months inside the bore to prevent rust and corrosion;
- Store in dry conditions, preferably indoors to prevent rust and corrosion;
- The end caps shipped with the meter run or fitting should be left in place during storage.

## MODEL NUMBERING SYSTEM

Each individual Canalta Orifice Fitting is assigned a model number which can be found on the unit's sales and quality control documentation. These model numbers facilitate quick identification of specific features of an orifice fitting, such as pipe schedule, body material and applicable standard. To understand the model number on your Canalta Orifice Fitting, use the legend below.



**Note:** the orifice fitting model number may deviate slightly from this legend in cases where exotic materials or other custom features are included. Please contact us directly for any questions or concerns regarding your Canalta Orifice Fitting.

## ADDITIONAL PRODUCT LINES

Canalta also offers these other high quality product lines. Visit us on the web at [www.canaltaflow.com](http://www.canaltaflow.com) to get all the information, or contact us to request print materials.

### The Canalta Dual Chamber Orifice Fitting

A high quality, high accuracy orifice fitting manufactured in a wide selection of sizes and materials, the Canalta Dual Chamber Orifice Fitting is designed and constructed to allow for orifice plate inspection or replacement under pressure without interruption in the flow line.

Available as fitting only or with complete meter run, 150# - 2500# ANSI ratings, with carbon or stainless steel internals and a variety of connection configurations.



### Parts, Accessories & Repair Kits

Parts and repair kits available for Single and Dual Chamber Orifice Fittings, meter runs and flow conditioning solutions.

Our parts and accessories offerings are interchangeable with the current industry standard orifice fitting brand, making Canalta Orifice Fitting internals suitable for re-builds and re-works of our competitors' product lines at substantial cost savings.

## CONTACT INFORMATION

**Canalta**   
**Flow Measurement**

A Canalta Controls Company

Phone: 403.342.4494 Email: [sales@canaltaflow.com](mailto:sales@canaltaflow.com)

Fax: 403.346.7110 Web: [www.canaltaflow.com](http://www.canaltaflow.com)

**Call Us Toll Free: 1-855-CANALTA**

6759 65th Avenue

Red Deer, AB T4P 1X5

CANADA

Find a list of our global distribution partners at [www.canaltaflow.com/global](http://www.canaltaflow.com/global)

The "Canalta Flow Measurement" name and logo are trademarks of Canalta Controls Ltd. All other trademarks are the property of their respective companies.

All information presented here is for information purposes only. Though every effort has been made to ensure their accuracy, the contents of this publication shall not be construed as warranties or guarantees, expressed or implied, regarding the products or services described herein, or their use or applicability. Due to Canalta's commitment to quality and innovation, all product designs, specifications and information material, including the contents of this publication, are subject to change without notice. Responsibility for the proper selection, maintenance and use of any product remains with the customer. SAFETY FIRST.

Copyright, trademark and other forms of proprietary rights protect the contents of this publication.

© 2011-2018 Canalta Controls Ltd. All rights reserved. Unauthorized reproduction in whole or in part is prohibited.

08 / 2018