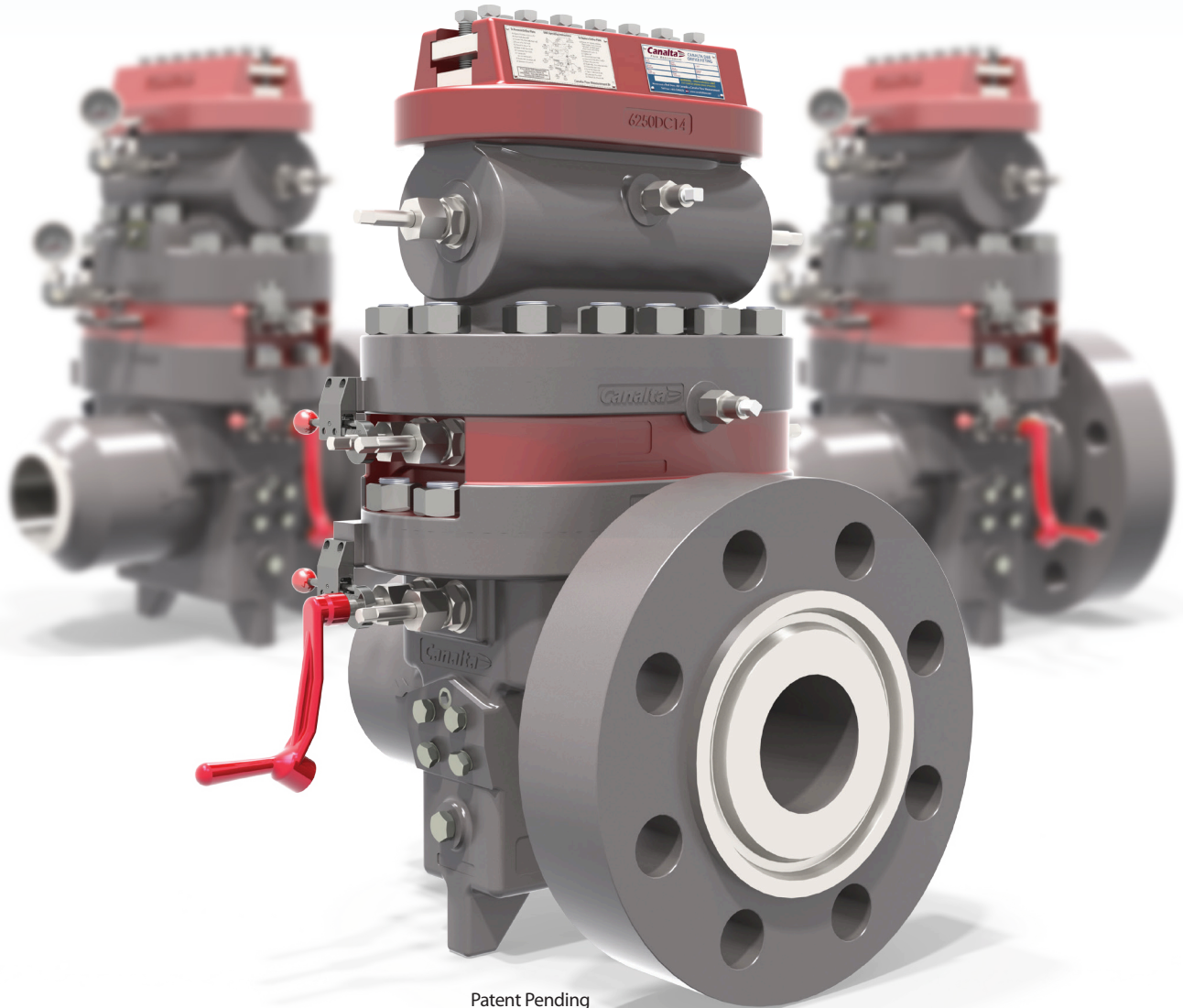


# ***Canalta***

## ***Flow Measurement***

A Canalta Controls Company



## **The Canalta *DBB* Orifice Fitting**

***Double Block & Bleed*** for unmatched ***Safety***  
without sacrificing ***Quality, Accuracy*** or ***Performance***

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

An ISO 9001:2015 registered company

Phone: 403.342.4494

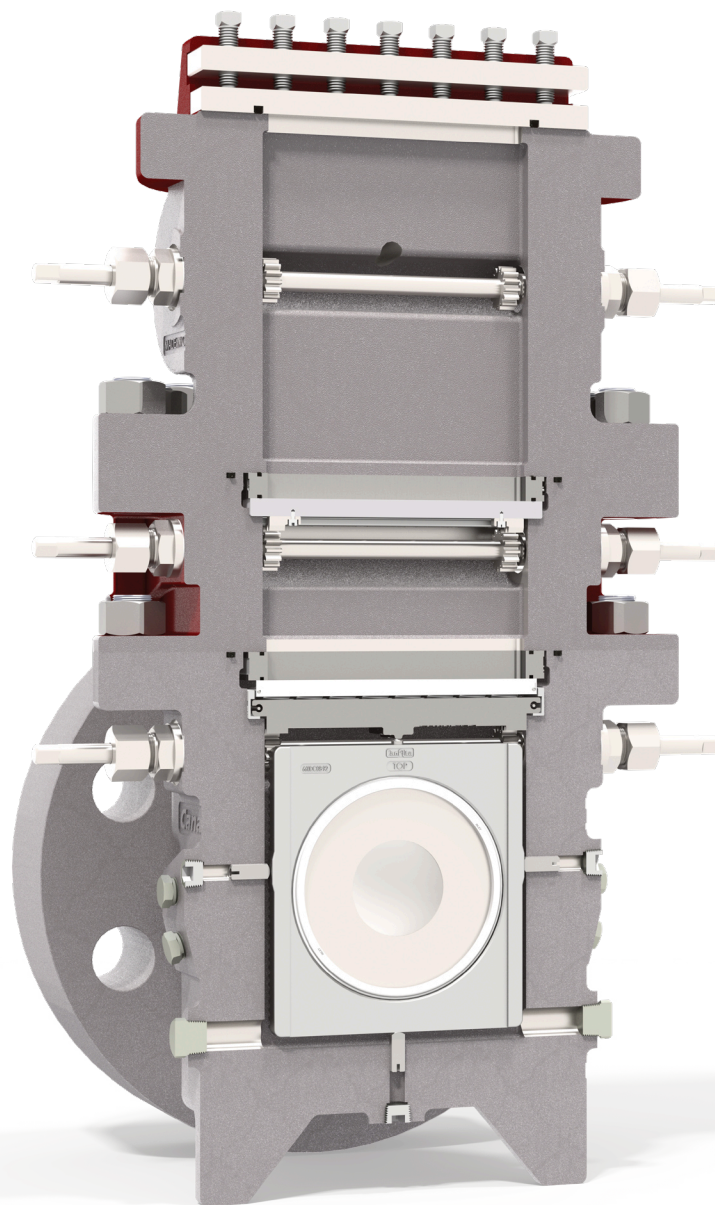
Email: [sales@canaltaflow.com](mailto:sales@canaltaflow.com)

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

The **CANALTA 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.

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



\* Patent Pending

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 or ISO 5167, the Canalta DBB Orifice Fitting provides accurate flow metering over a long service life and superior protection from high pressures and toxic flow media. Available as fitting only, retrofit or complete AGA-3 or ISO 5167 compliant meter run.

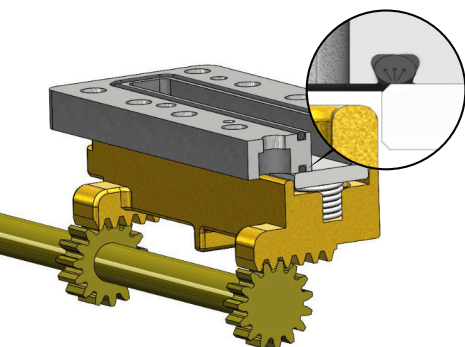
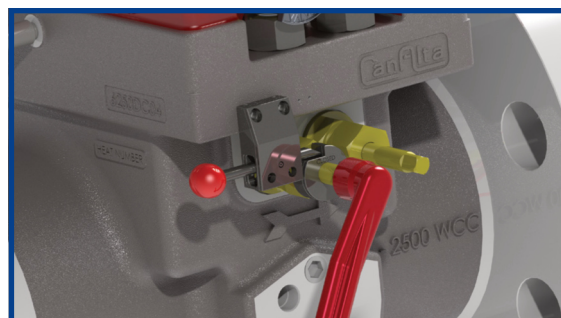
## ***Retrofitting Orifice Meter Installations***

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.



***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.

***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.



The ***Soft Seat Valve Seal*** is available for all DBB Orifice Fitting models. Effective in all scenarios, this unique design enables a bubble-tight seal between the three chambers without the need for frequent valve lubrication. The specially machined seal channel helps prevent O-ring dislocation, and the O-ring seals incorporated are available in a wide variety of compositions. The DBB Orifice Fitting is also effective with standard grease seals.

***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.

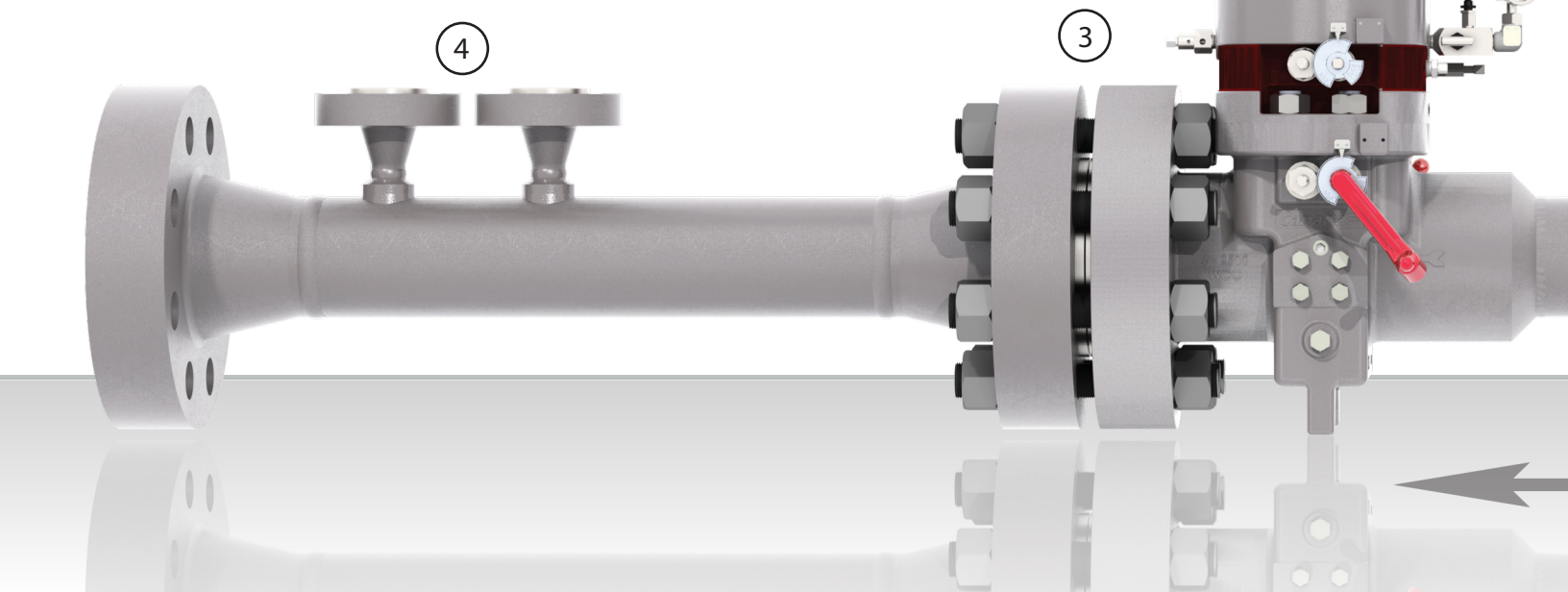


Each unit features ***Fully Accessible, Field Adjustable Eccentricity*** of the orifice plate from the exterior of the fitting. Tamper-proof sealing is done on request.



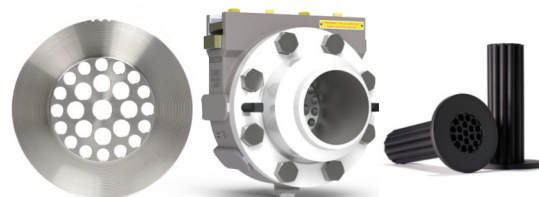
## METER RUNS

All Canalta DBB Orifice Fittings can be supplied with complete custom-designed **Meter Runs** and **Flow Conditioning Solutions** that meet your exact specification or performance needs.



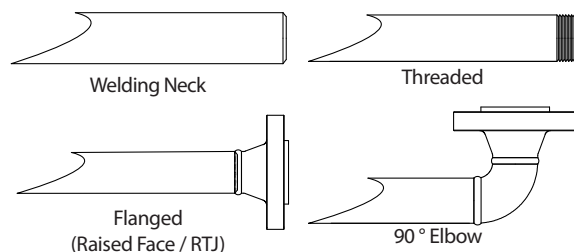
### 1 FLOW CONDITIONING ACCESSORIES

The goal of meter run design is to account for swirl and turbulence. Suitable for a wide range of flow measurement methods and equipment, Canalta's Contour™ lineup of Flow Conditioners, Flow Conditioner Housings and Straightening Vanes will help you develop the flow profile you need to achieve maximum performance and accuracy in the field.



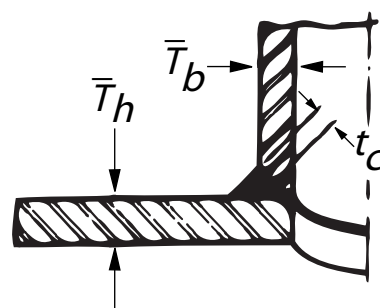
### 2 END CONNECTION OPTIONS

Canalta Meter Runs can be fabricated with a variety of standard tube ends. All inner surface welds are precision ground and inspected to meet exacting I.D. surface and roundness tolerances. Per your requirements, two and three-piece meter runs can have dissimilar end types up and downstream of the orifice fitting.



### 3 WELDING SPECIFICATION

Each Canalta Meter Run is professionally fabricated by our team of certified "B" Pressure Welders and experienced pipe finishers to meet and exceed the stringent specifications of AGA / API / ISO. Our welding procedures are registered with the Alberta Boiler and Safety Association (ABSA) and are in accordance with the applicable ASME Boiler and Pressure Vessel Codes. In addition, Canalta will ensure that all of your NDT and stress relieving requirements are met with full documentation.

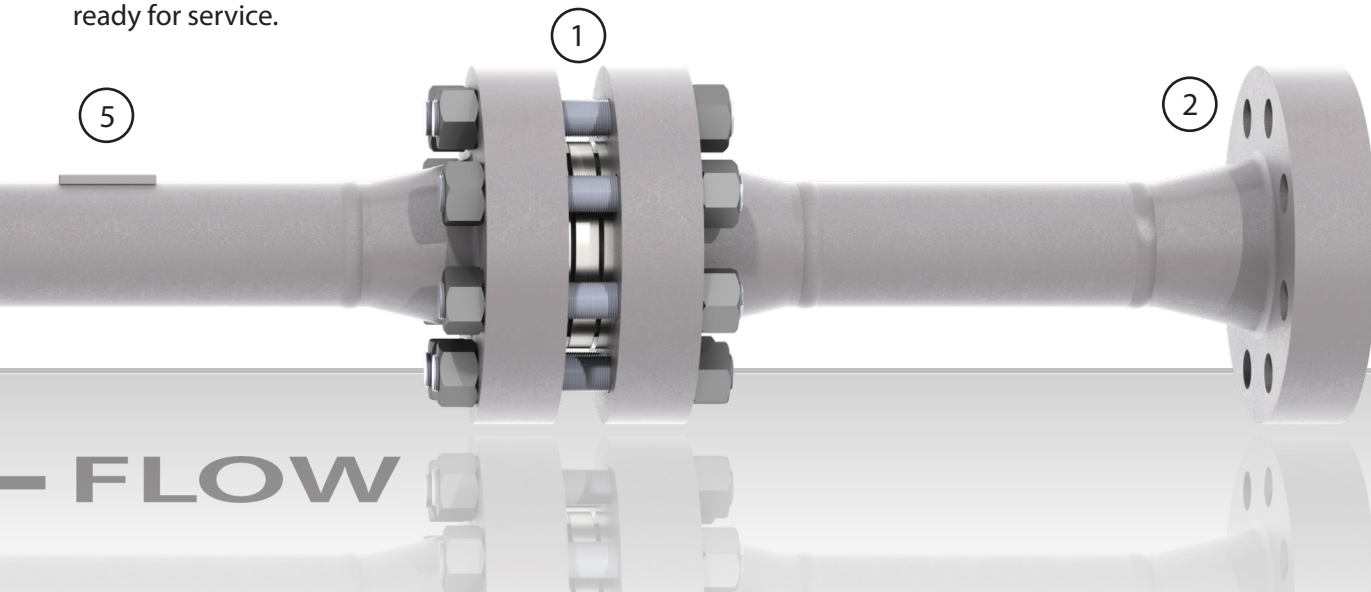




Whether the size is 2" or 30", high or low pressure, wet, dry or corrosive service, we can put together a custom meter run package that meets your specification or performance needs and perfectly matches your Canalta Orifice Fitting.

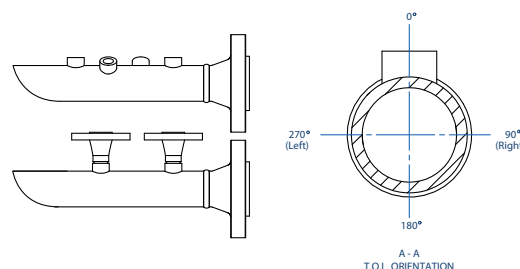
***You trust Canalta at the orifice plate. When accuracy counts, trust Canalta up and downstream, too.***

We've been working to AGA-3 / API 14.3 and ISO 5167 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.



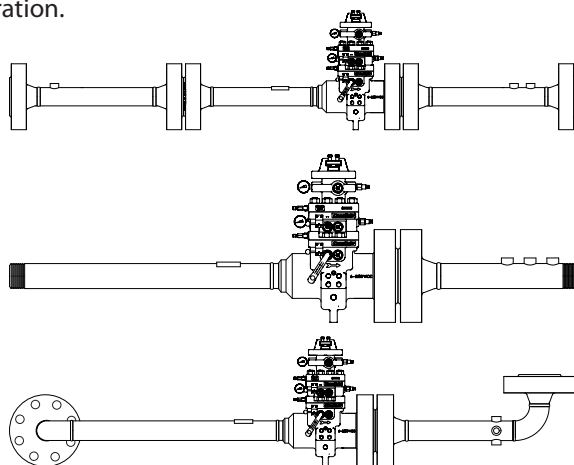
#### 4 BRANCH CONNECTION OPTIONS

Industry standard offerings provide one 1" and one 3/4" branch connection on the downstream spool. Our custom meter tube design capability allows us to fabricate nearly any combination of weldolets, sockolets, flanged outlets, threadolets and latrolets in any orientation.



#### 5 METER RUN SPECIFICATION PLATE

All Canalta Meter Runs include a specification plate mounted immediately upstream of the orifice fitting. These spec plates detail pipe schedule, pressure rating, maximum beta, maximum orifice and other information essential to proper operation.



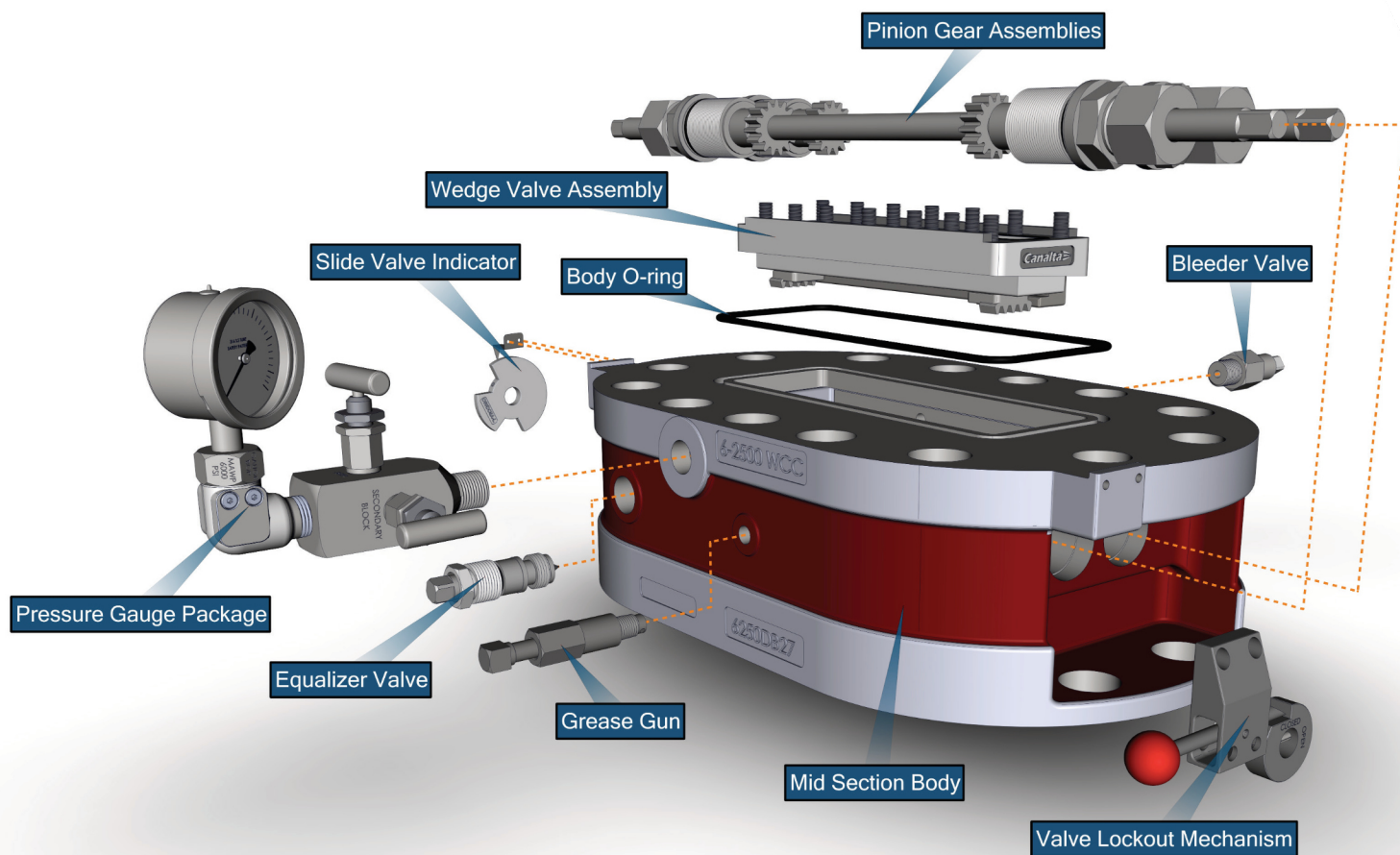
With literally endless configurations possible, Canalta will custom design and fabricate your meter run for any application.

***ACCURACY, RELIABILITY,  
PERFORMANCE.***

## DBB RETROFITS

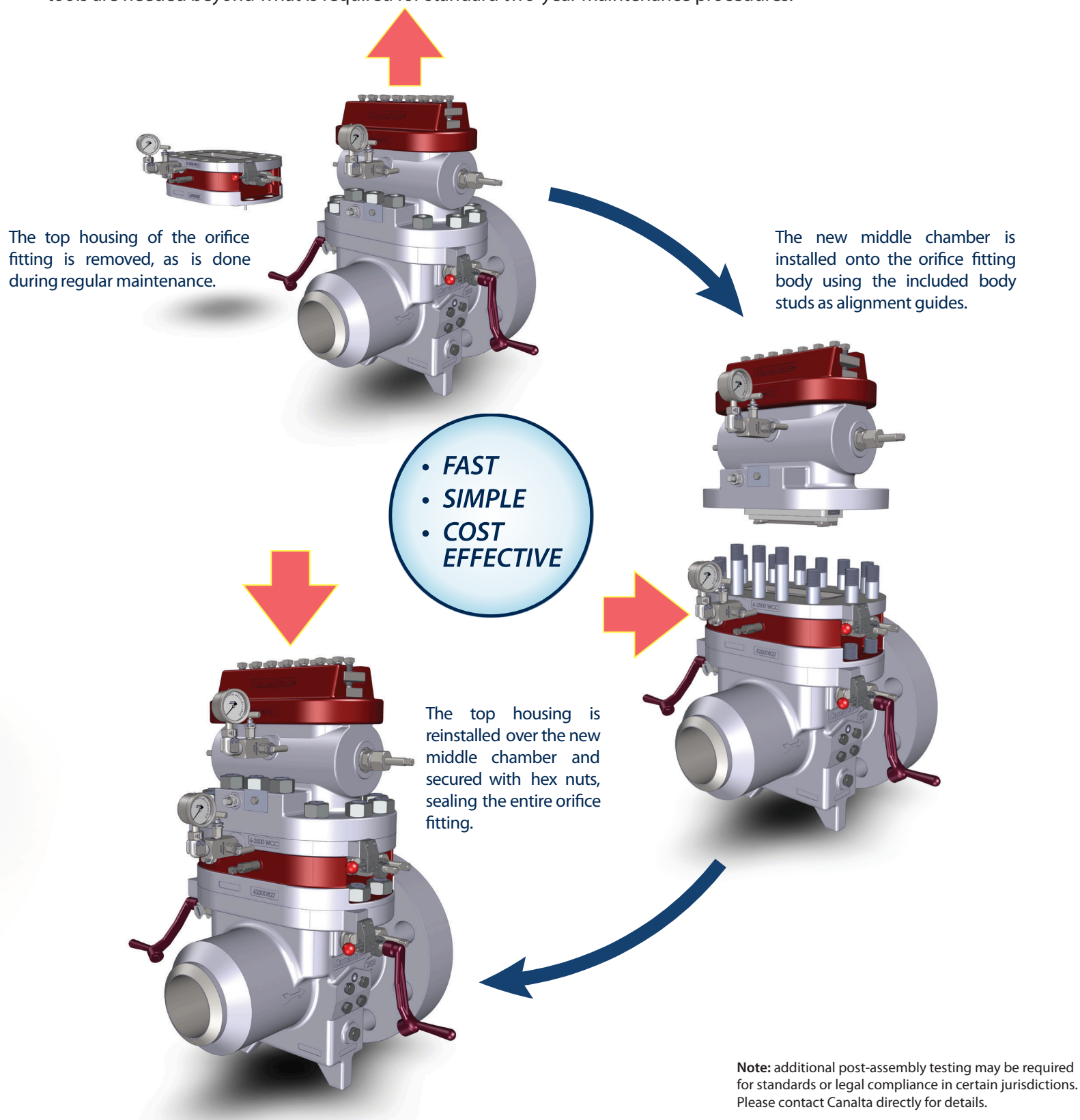
### RETROFIT PACKAGES

Canalta offers retrofit packages that allow users to upgrade their existing Canalta Dual Chamber and Daniel® Senior® Orifice Fittings with double block and bleed functionality. Each package includes the middle chamber body and a full set of parts and sub-assemblies needed to add a functioning second valve with separate venting to the orifice fitting. Replacement body studs and nuts are also included to match the new configuration.



## RETROFIT INSTALLATION

Because the DBB middle chamber is an extension of the original orifice fitting design, incorporating the same body and valve seals and bolt up method, installation is extremely quick and easy. No additional tools are needed beyond what is required for standard two-year maintenance procedures.





## ORIFICE PLATE SEAL OPTIONS & CARRIER ASSEMBLIES

### Type "K" Standard 2000 Edition Seal Assembly

This is the standard seal assembly supplied with all orifice fittings from sizes 2" through 8". This unit is used with a .562" seal gap for fittings sized 2" through 6", and with a .688" seal gap for 8" fittings. The single downstream seal function offers superior sealing capability while reducing seal damage during insertion. Plate seal bypass tested down to 1" water column.

The seal assembly is comprised of an elastomer seal and one stainless steel retainer ring. Exact and repeatable concentricity is maintained with the metal to metal contact throughout the entire 360° circumference of the orifice plate to the plate carrier mechanism.



### Dual Ring Seal

Canalta's Dual Ring Orifice Plate Seal is an innovative response to ultra-harsh process environments, performance challenges and the need for operating cost improvements. Two rugged 316 SS retaining rings encapsulate the orifice plate, providing bypass protection with two standard sized O-rings. Operators can easily source additional rings for replacement or to match changing service conditions. The unique seal structure provides excellent eccentricity and plate deflection performance.

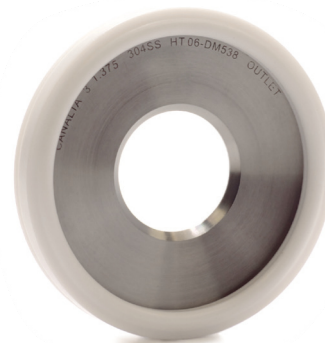
Available as standard with 80 duro HNBR sealing components, with exotics available by special order. Retaining rings also available in Teflon.



### Teflon Snap Seal

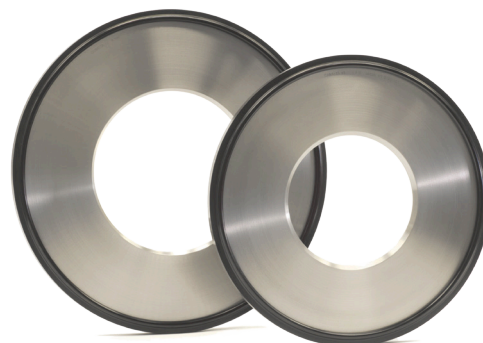
The Teflon Snap Seal provides positive plate sealing in the harshest of process environments. The two-piece design snaps over the orifice plate without the use of metal clips or retainers. A specially designed recess absorbs the insertion pressures, minimizing permanent compression and distortion.

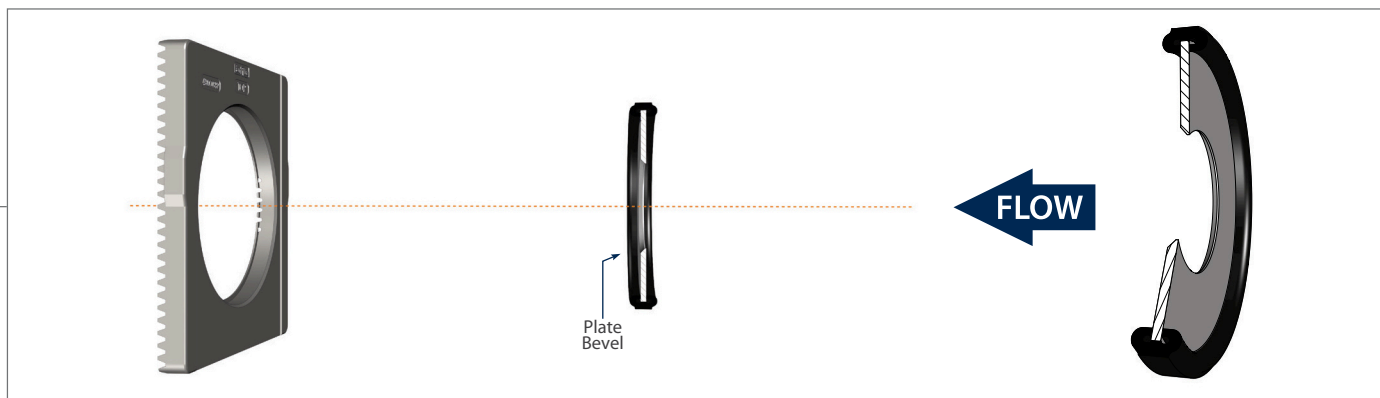
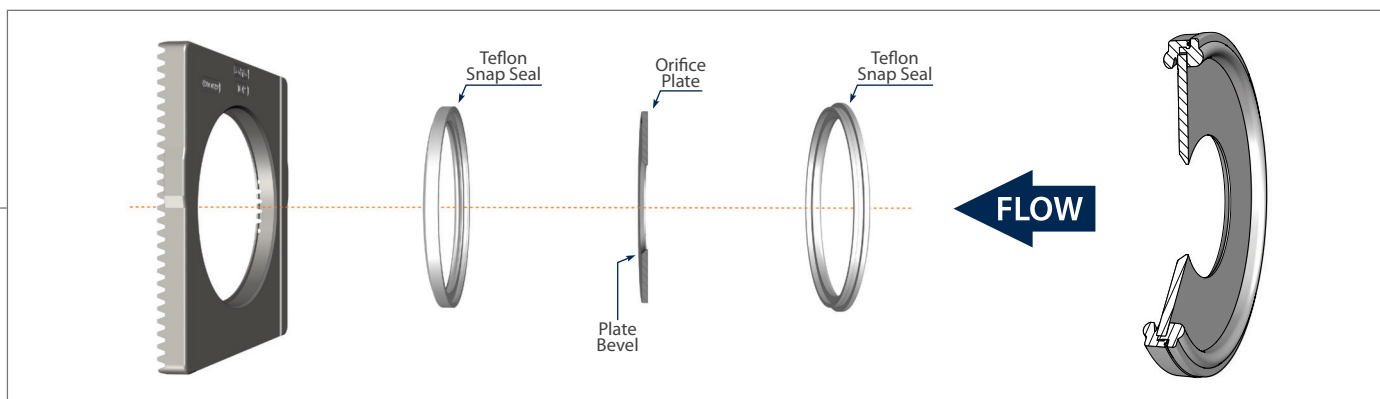
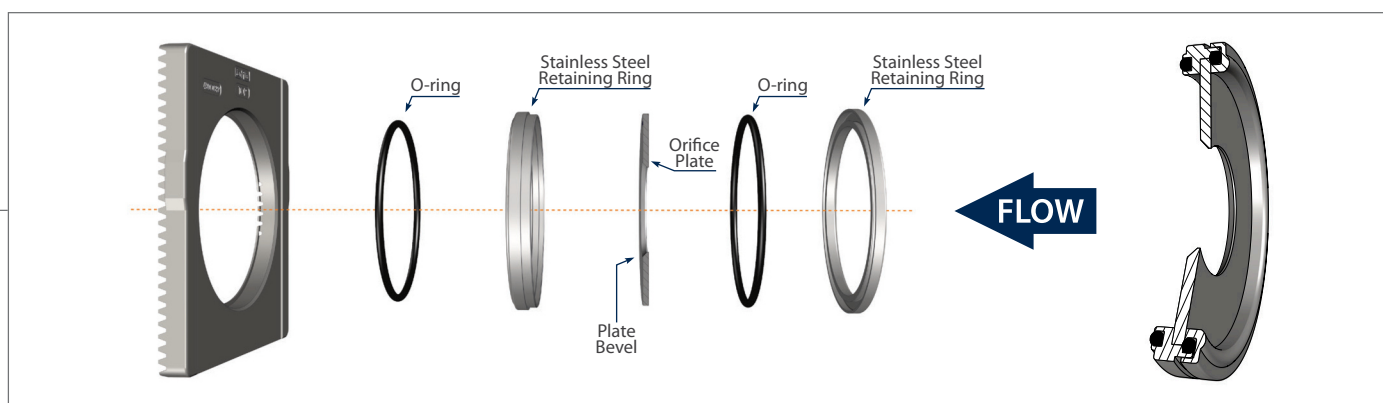
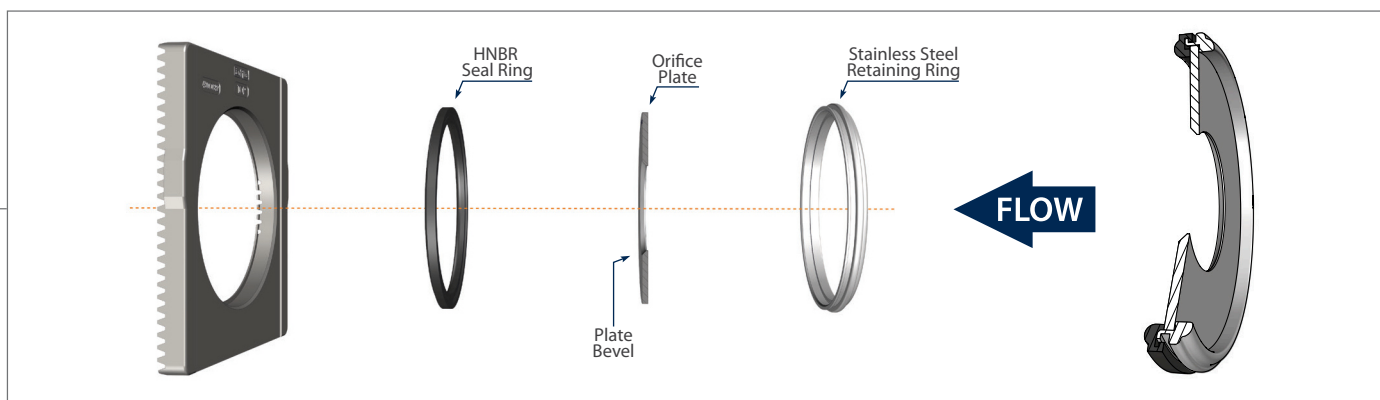
The raised section adjacent to the recess creates a positive seal against the orifice plate, preventing bypass leakage. These two unique design features enhance seal performance while extending the life expectancy of the seal assembly.



### Bonded Seal

This is the standard seal supplied with all Canalta Orifice Fitting model sizes 10" and larger. Designed with a unique "hollow core" recess, this seal has impressive expansion and contraction capabilities when compared to traditional solid rubber seals. The recess allows the seal to absorb insertion pressures, minimizing tearing, distortion and permanent compression. The 80 duro HNBR seal is adhesively bonded to the orifice plate, creating total and permanent contact between the plate and seal and preventing bypass leakage.





## TECHNICAL SPECIFICATIONS

<b>Design</b> .....	Orifice fittings supplied in Canada are built in accordance with the ABSA Quality Control Program. Industry Canada Approval Number AF-0014. In compliance with ASME 16.34 and ASME 16.5, ASTM specifications, AGA-3 Latest Edition and ISO-5167.
<b>Body Materials</b> .....	A216 WCB, A216 WCC, A352 LCC, A358 CF8M, A995 Gr4A, A995 Gr6A, Custom
<b>Internal Parts</b> .....	AISI 4130 Carbon Steel, 316 or A351 CF8M Stainless Steel
<b>Sizes and ANSI Class</b> .....	2" through 12" 150 through 2500 ANSI raised face flange 14" through 16", 150 through 1500 ANSI raised face flange 18" through 30", 150 through 600 ANSI raised face flange 600, 900, 1500 and 2500 flanges also available in RTJ face flange
<b>U/S D/S Connections</b> .....	Flangeneck design (weldneck U/S, flange D/S) Flange x flange Weldneck both ends
<b>Internal Bore Sizes</b> .....	40, 60, 80, 100, 120, 160 and custom sizes
<b>Sealing Compounds</b> .....	Seal bar - HNBR O-ring standard, gasket optional Shafts - Teflon packing standard, HNBR O-ring optional Inner valves - Grease seal standard, HNBR O-ring optional Orifice plate - Type "K" 2000 Edition formed HNBR seal on a 316 SS retainer ring Dual Ring HNBR O-rings standard on a 316 SS retainer ring assembly Teflon Snap Seal two-piece virgin Teflon assembly
<b>Line Bore I.D. Tolerance</b> .....	In conformance with AGA-3 and ISO-5167 Latest Editions
<b>Eccentricity Repeatability</b> .....	In conformance with AGA-3 and ISO-5167 Latest Editions
<b>Tap Connections</b> .....	Two 1/2" NPT per side standard, two 1/2" NPT additional per side optional (TT) 2" and 3" fitting sizes center bored to .375" inside diameter 4" and larger sizes center bored to .500" inside diameter Tolerance +/- 1/64"
<b>Orifice Plate Seal Gap</b> .....	2" through 6" = 0.562", 8" through 14" = 0.688", 16" through 20" = 0.813", 24" through 30" = 0.875"
<b>Operating Shaft Location</b> .....	Dual operation standard
<b>Operating Temperature</b> .....	Standard at -20° to 100° F, optional -40° to 1200° F
<b>Operating Position</b> .....	Vertical or horizontal

## Conformance

All fittings come standard with a documentation package including hydro-test, function test, inner valve seal test, quality control inspection and material test reports. Traceability is maintained in accordance with the ISO-9001 Quality Control Program. The fittings are manufactured within the guidelines of ASME 16.34 and ASME 16.5. When required, radiography, stress relief, ultra-sonic and liquid dye penetration tests can be performed with the relevant report submitted.

## Reporting

An AGA 2000 inspection report is included with the purchase of every fitting. The documented tests include:

- I.D. Bore Tolerance
- Instrument Tap Diameter
- Instrument Tap Location
- Tap Communication
- Plate Seal Test
- Seal Protrusion
- Orifice Eccentricity
- Bore Inside Diameter
- Bore Roughness





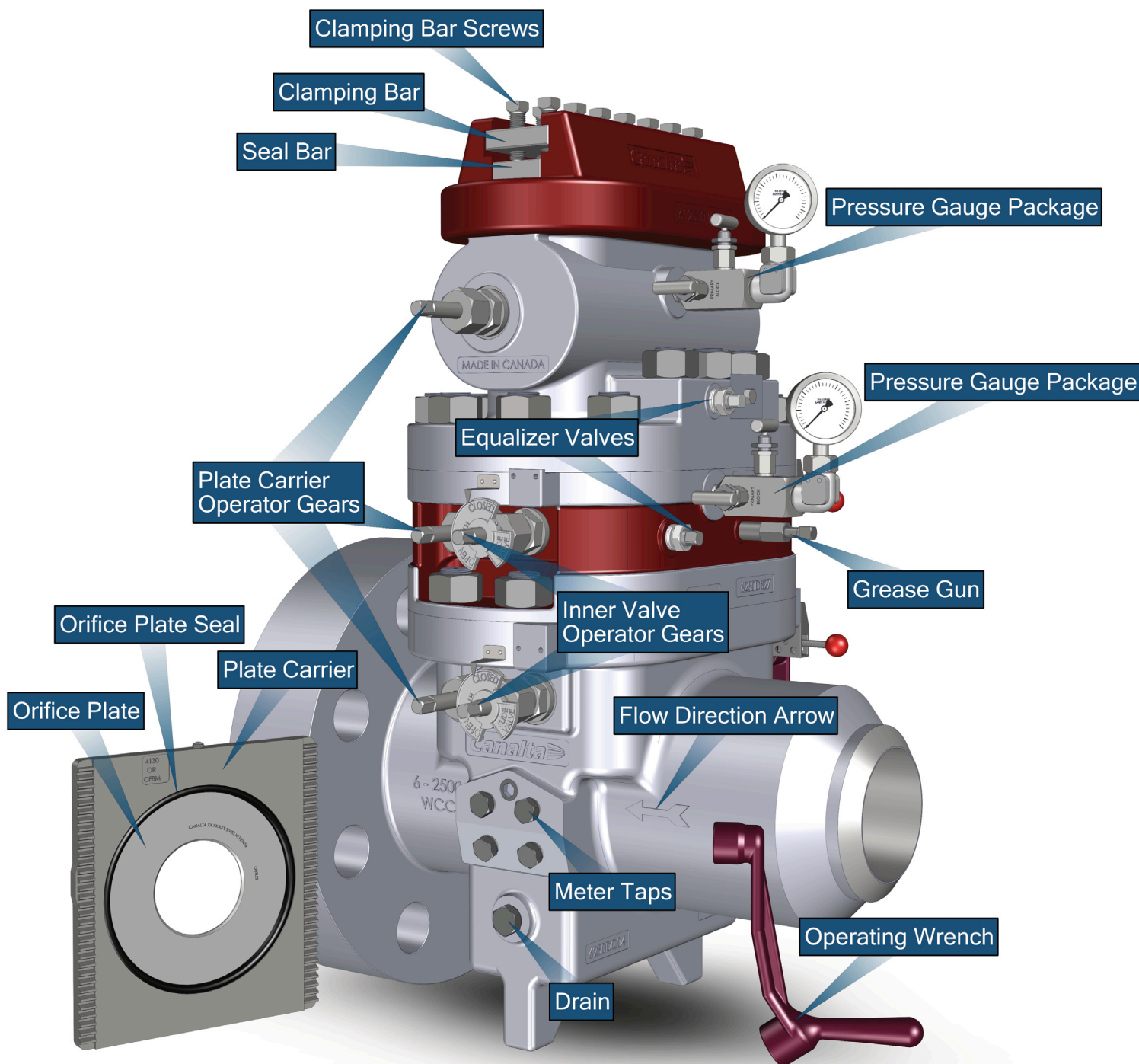
Our **Quality Management** systems guarantee that your **Canalta Orifice Fittings** are fully function and pressure tested, AGA-3, API 14.3 and ISO 5167 compliant and **ready for service**

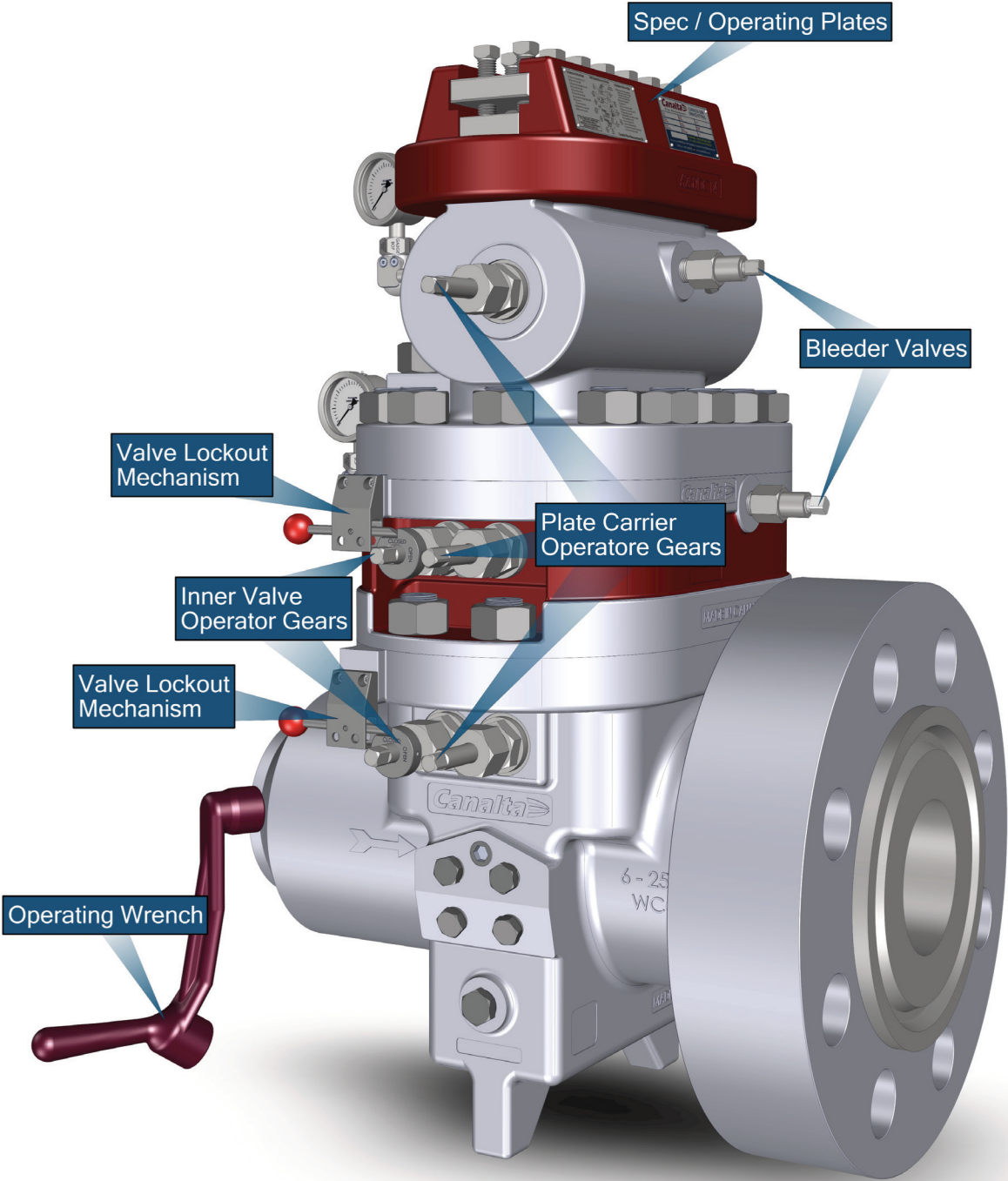


## OPERATIONS & MAINTENANCE

## KEY OPERATING PARTS AT A GLANCE

The Canalta DBB Orifice Fitting is operated by relatively few parts, all of which are controlled with the use of the included Operating Wrench. The spatial separation of these operating parts, along with the visual differences between them, make the Canalta DBB Orifice Fitting far less prone to operator error than our competitors' equipment.



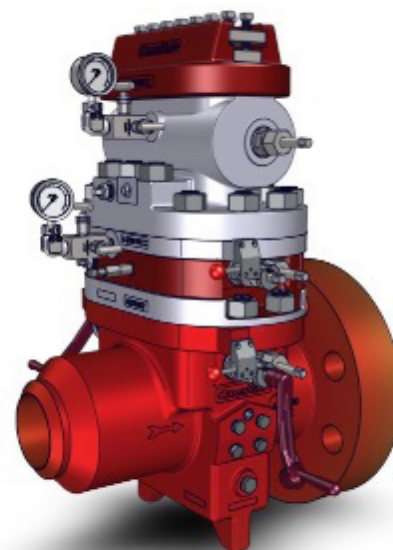




## OPERATIONS & MAINTENANCE

### GENERAL OPERATING NOTES

- It is the responsibility of the end user to ensure all operating staff are competent and properly trained in the operation of this and all other pressurized equipment. The following operating instructions are also given on the operating plate attached to each flow meter top housing.
- It is the responsibility of the end user to assess the expected surface temperature of the unit while in service, and to take the necessary precautions to avoid operator injury.
- It is the responsibility of the end user to account for all vented process fluids, and to develop the necessary procedures to avoid operator injury and environmental damage.



### NORMAL OPERATION

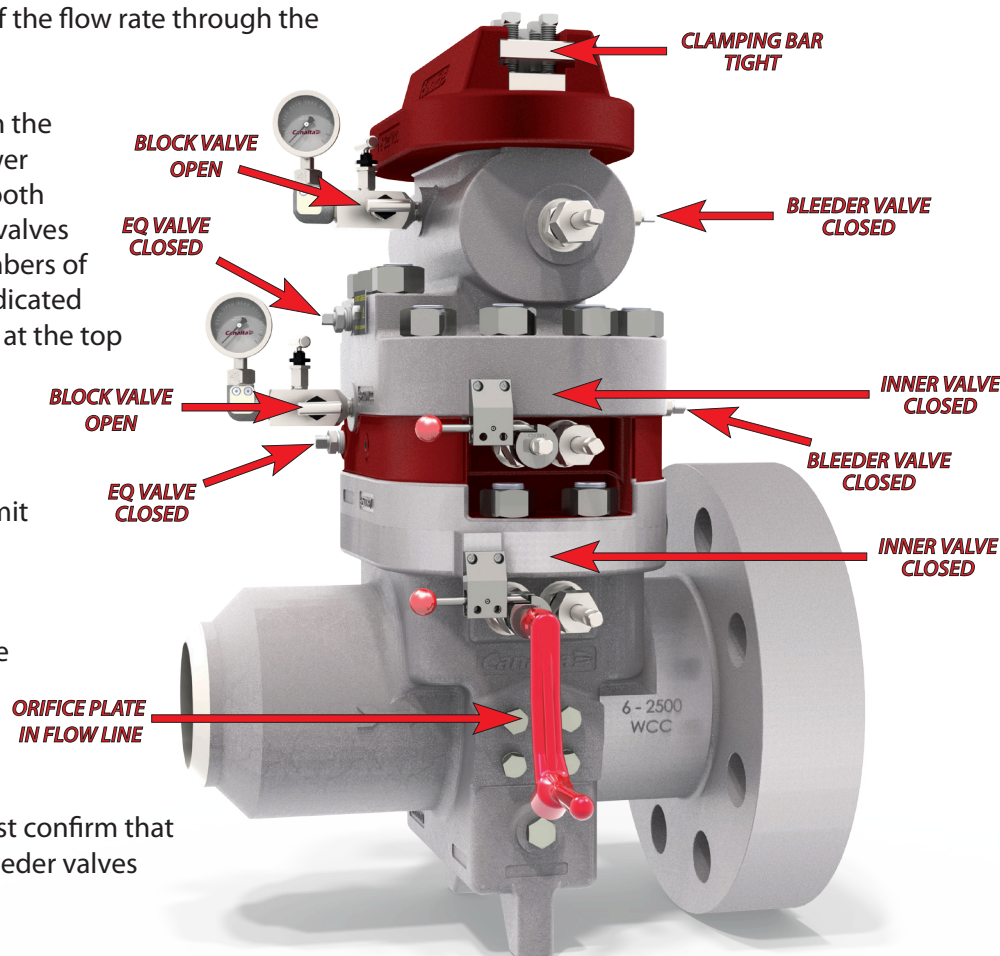
The Canalta DBB Orifice Fitting allows for accurate placement of an orifice plate in the flow line, along with easy removal and replacement, without interrupting the flow or dismantling the pipeline. Flow of the gas or liquid through the orifice plate creates the differential pressure which is measured and used for the calculation of the flow rate through the pipeline.

The unit is in normal metering status when the plate carrier and orifice plate are in the lower chamber, concentric to the flow line, and both inner valves, equalizer valves and bleeder valves are all closed. The middle and upper chambers of the unit are at atmospheric pressure, as indicated by the pressure gauges. The clamping bar at the top of the unit is tight.

Pressure sensors installed in the lower housing's meter taps read the differential pressure across the orifice plate and transmit the readings to a flow computer or chart recorder.

Orifice plate condition is critical to accurate metering. The orifice plate must be removed and inspected for damage, general wear and particulate build-up regularly. Prior to beginning the orifice plate removal procedure, the operator must confirm that the clamping bar is tight and that both bleeder valves are fully closed.

*During normal operation, only the lower chamber is pressurized. Atmospheric pressure in the two upper chambers is indicated by the pressure gauges.*



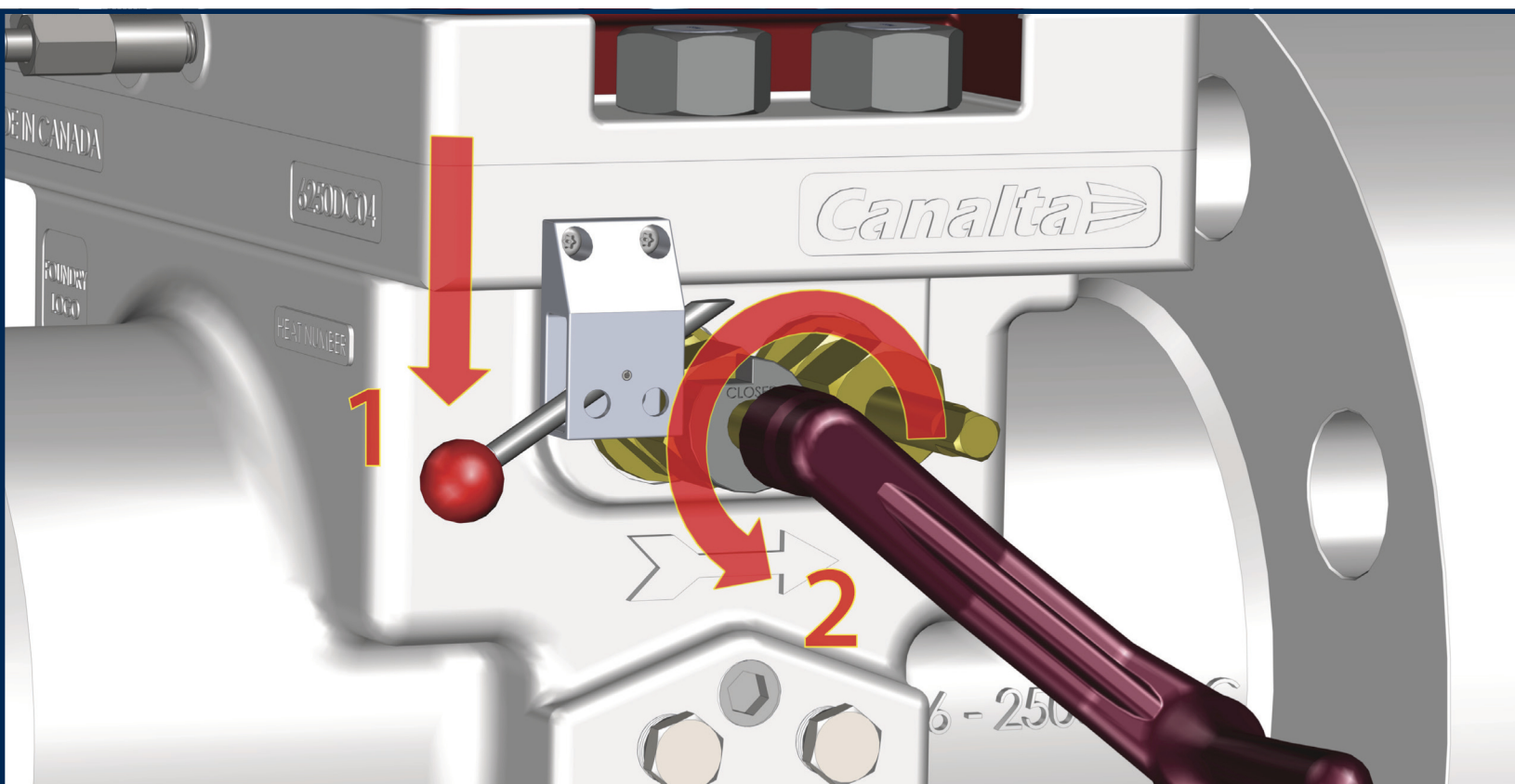
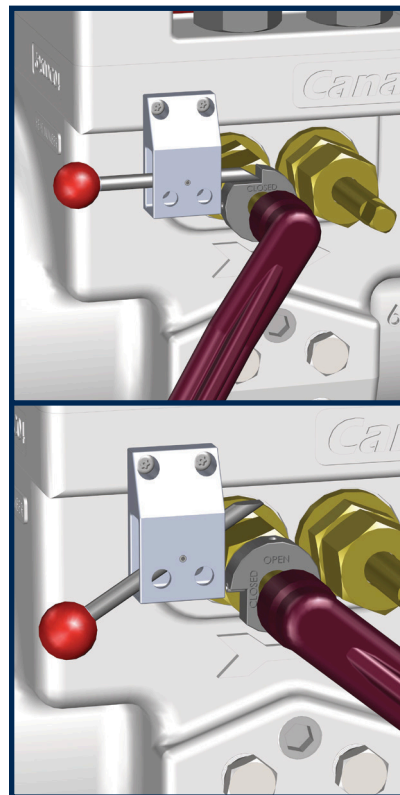
**Note:** Grease gun removed from image for clarity.

## VALVE LOCK-OUT MECHANISM

After numerous requests from our customers, Canalta designed a valve lock-out mechanism to provide extra protection on the inner valve pinion gear. Requiring a manual reset before the inner valve may be opened, this security accessory provides an added opportunity for safety assessment and operator awareness. Two holes in the lock-out mechanism's mounting bracket allow the unit to be locked with any standard padlock as a protection against tampering or other unauthorized operation. In addition, the mechanism is attached to the fitting body with two fasteners that require a non-standard tool for removal, adding further security.

The mechanism also provides clear visual indication of valve status (open / closed) by means of a retainer that rotates with the pinion gear shaft during operation.

To open the inner valve with the valve lock-out mechanism in place, first depress and hold the lever arm, then rotate valve's operator gear shaft with the operating wrench. Rotation will automatically stop when the valve is fully open, and the mechanism's retainer will be in the "OPEN" position.

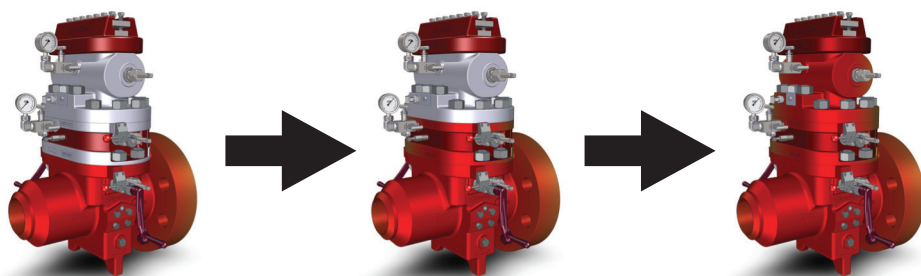


## OPERATIONS & MAINTENANCE

### REMOVING THE ORIFICE PLATE

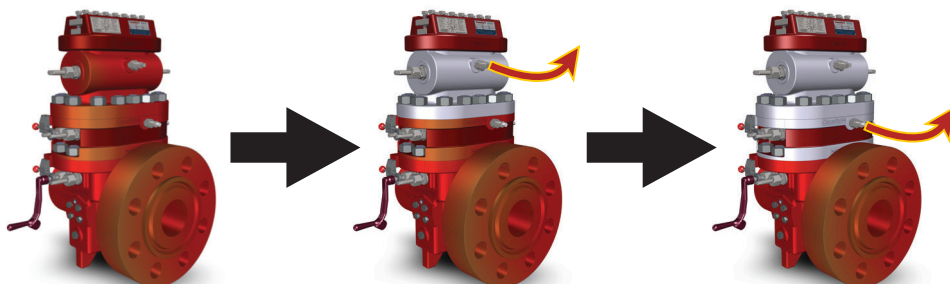
**WARNING:** Prior to beginning the procedure, confirm that the clamping bar is tight and that both bleeder valves are fully closed.

1. Slowly open the lower equalizer valve to pressurize the middle chamber equal to the flow line pressure. Slowly open the upper equalizer valve to pressurize the upper chamber equal to the flow line pressure.
2. Open both inner valves. (See above for operating inner valves with the valve lock-out mechanism)
3. Starting with the lower plate carrier operator gear, rotate the gear shaft to raise the plate carrier using the operating wrench until it engages the middle plate carrier pinion gear. Rotate the middle operator gear until the plate carrier engages the upper plate carrier pinion gear. Rotate the upper operator gear until the plate carrier stops against the seal bar.
4. Rotate both inner valve pinion gears to close the valves. **Ensure both inner valves are completely closed.**
5. Fully close both equalizer valves.
6. Open the upper bleeder valve to fully depressurize the top chamber. Open the lower bleeder valve to depressurize the middle chamber. **Ensure that the lower bleeder valve remains open for proper DBB functionality while the top opening is unsecured.**
7. Perform the greasing procedure for the bottom inner valve (see p. 20 for details). **Do not attempt to lubricate soft seat valves.**
8. Loosen the top clamping bar screws and rotate the upper plate carrier pinion gear to dislodge the seal bar.
9. Remove both the clamp bar and seal bar. Rotate the plate carrier upwards through the opening for access.



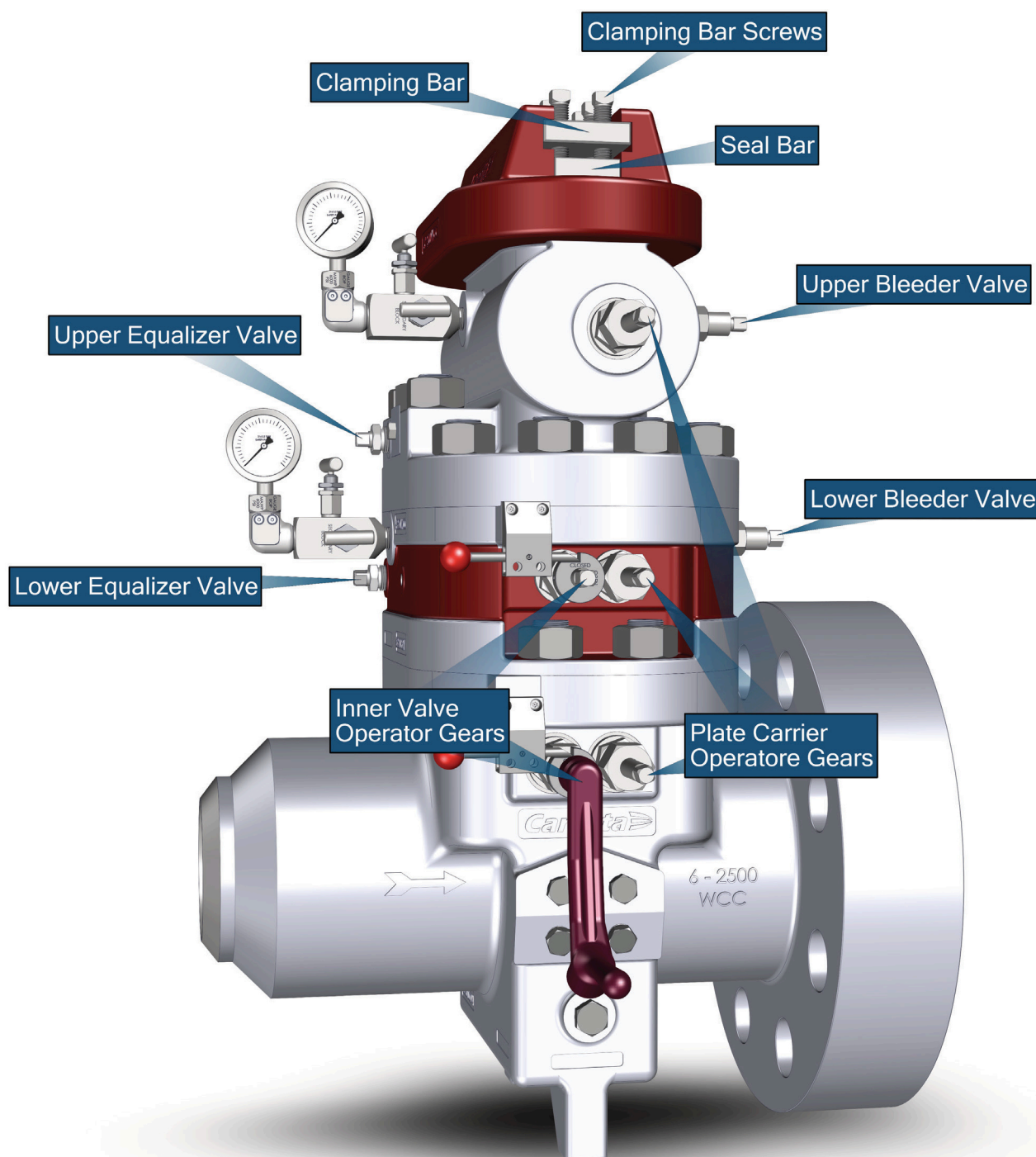
*Opening the EQ valves in step 1 successively pressurizes the middle and upper chambers. Pressure rise is visually indicated on the pressure gauges.*

*Opening the bleeder valves in steps 6 and 7 successively depressurizes the top and middle chambers, venting gas to atmosphere or a safe venting system. Pressure drop is visually indicated on the pressure gauges.*





*In the rare event of a lower valve leak, gas will vent away from the operator through the lower vent line and will not emit through the top opening. Follow the prescribed orifice plate removal and replacement procedures closely to ensure proper DBB functionality.*



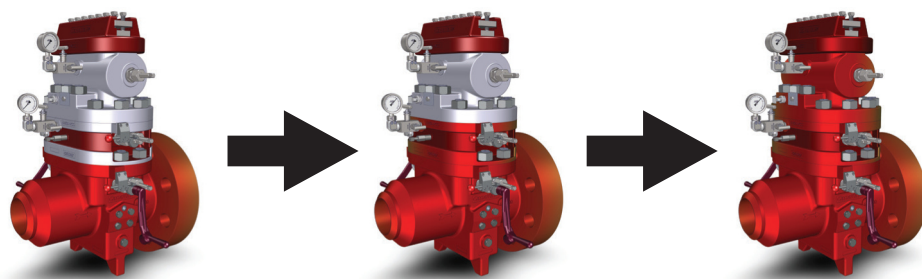
*Note:* Grease gun removed from this image for clarity.

## OPERATIONS & MAINTENANCE

### REPLACING THE ORIFICE PLATE

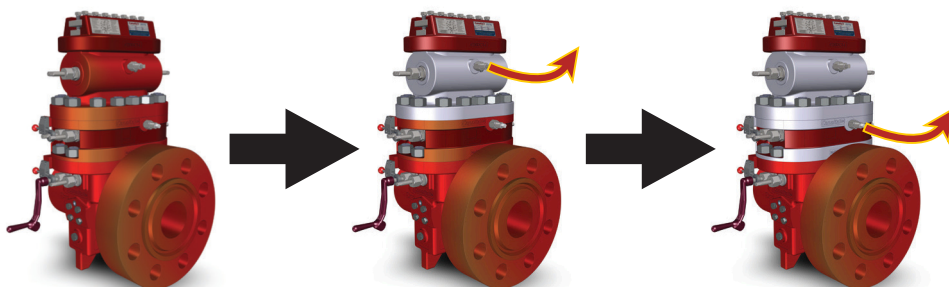
Ensure the orifice plate bevel and plate carrier gear surface face downstream, and that the plate carrier is level with the top surface of the top housing (see right).

1. Rotate the upper plate carrier operator gear to lower the plate carrier into the top chamber. Continue rotating the gear shaft until the plate carrier just clears the top seal bar surface. **Do not lower the plate carrier onto the middle chamber's inner valve.** Reinstall the seal bar and clamping bar, ensuring that they are centered and that the clamping bar screws are securely tightened.
2. Reinstall the seal bar and clamping bar, ensuring that they are centered in the top housign T-slot.
3. Tighten all clamping bar screws.
4. Close the bleeder valves on both the middle and top chambers.
5. Slowly open the lower equalizer valve to pressurize the middle chamber equal to the flow line pressure. Slowly open the upper equalizer valve to pressurize the top chamber equal to the flow line pressure.
6. Open both inner valves with the corresponding gear operators.
7. Starting with the top plate carrier pinion gear, rotate the gear shaft until the plate carrier engages the middle operator gear. Rotate the middle plate carrier pinion gear until the plate carrier engages the lower operator gear. Rotate the lower plate carrier pinion gear until the plate carrier stops against the alignment pin at the bottom of the orifice fitting.
8. Close both inner valves.
9. Close both equalizer valves.
10. Open both bleeder valves to depressurize the upper and middle chambers.
11. Perform the greasing procedure for the bottom inner valve (see p. 20 for details). **Do not attempt to lubricate soft seat valves.**
12. Re-close the bleeder valves. The unit is now in normal metering status.

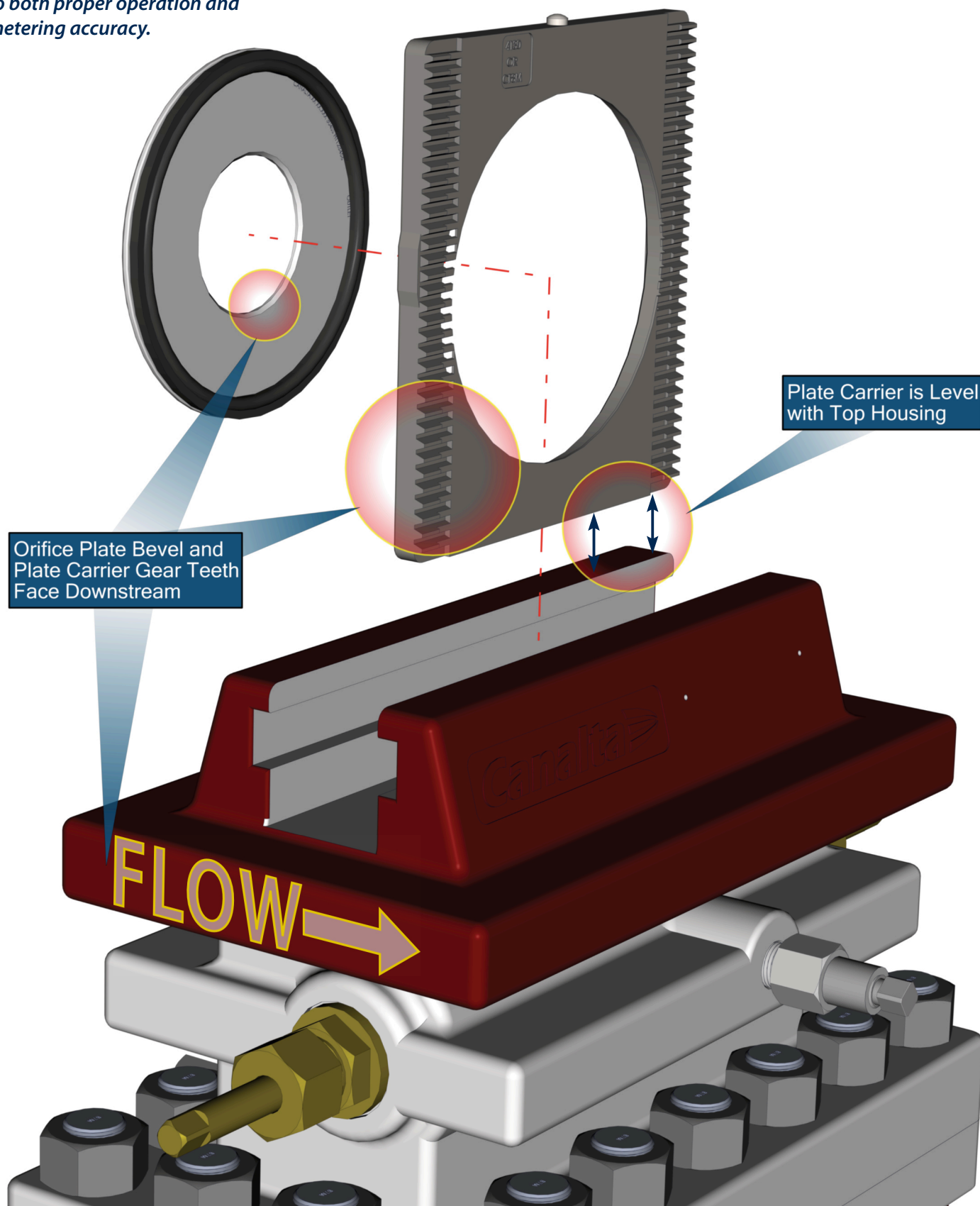


Opening the EQ valves in steps 5 and 6 successively pressurizes the middle and upper chambers. Pressure rise is visually indicated on the pressure gauges.

Opening the bleeder valves in step 10 successively depressurizes the top and middle chambers, venting gas to atmosphere or a safe venting system. Pressure drop is visually indicated on the pressure gauges.



*When replacing the orifice plate, proper positioning of the orifice plate and plate carrier is crucial to both proper operation and metering accuracy.*



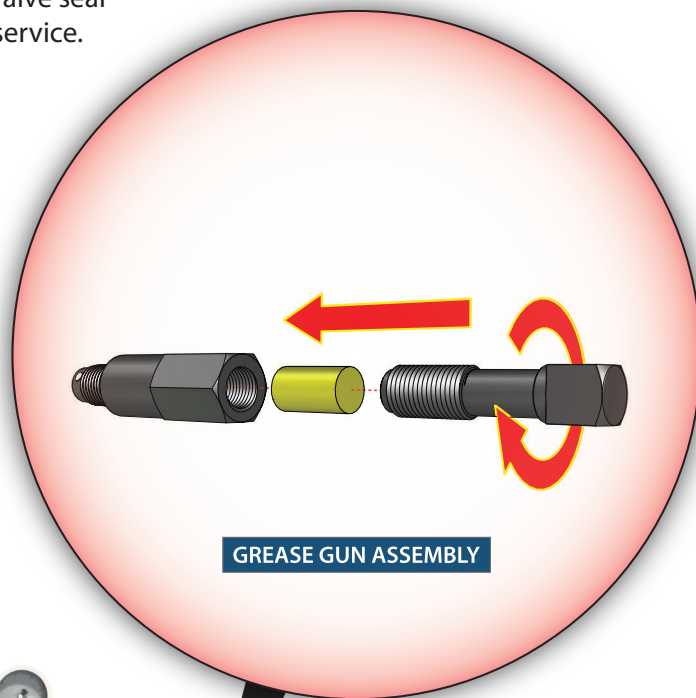


## SLIDE VALVE LUBRICATION

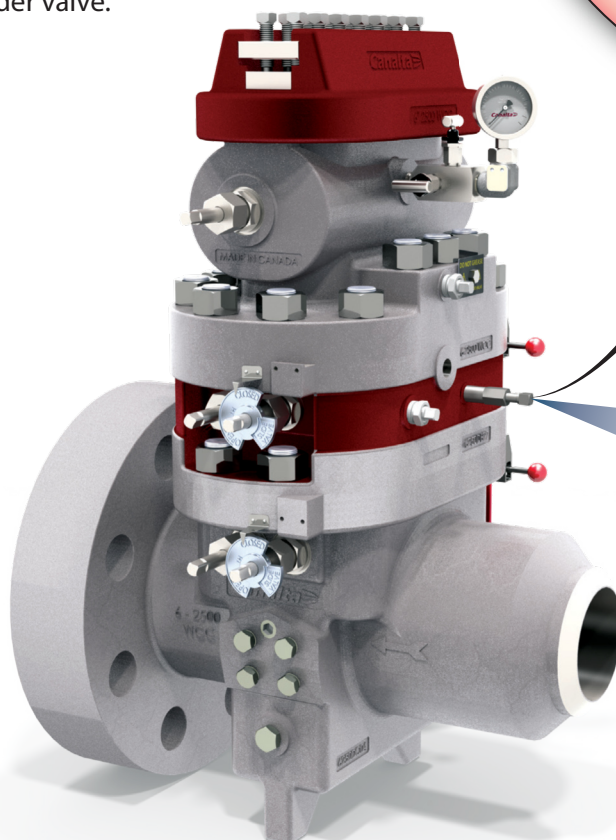
### GREASING PROCEDURE

The metal-to-metal grease seal design requires lubrication on a regular basis. For the procedure to be successful, a pressure differential across the slide valve being serviced is required, with the chamber immediately below the valve having a higher pressure and forcing the valve strip up against the seat. The double ball grease check valves prevent process pressure from coming through the grease ports. For best results, use only valve seal grease supplied by Canalta and recommended for the applicable service.

1. Ensure that both inner valves and equalizer valves are fully closed, and that the middle and upper chambers are depressurized, as indicated on the pressure gauges. Open the lower bleeder valve. A pressure differential now exists between the lower and middle chambers, and the lower slide valve is ready to be greased.
2. Remove the threaded stem from the grease gun assembly. Insert one stick of grease.
3. Replace the grease gun stem and turn in slowly so as not to rupture the grease channel seal.
4. Repeat steps 2 and 3 if additional grease is required. Larger units require more grease.
5. Close the lower bleeder valve.



GREASE GUN ASSEMBLY



GREASE GUN

**WARNING:** The soft seat valve seal design *does not* require lubrication through the grease port. Attempting to lubricate a Canalta DBB Orifice Fitting equipped with soft seat slide valves will cause the inner O-ring seals to be ejected from the dovetail glands resulting in valve failure.

*Note:* Lower pressure gauge package removed from image for clarity.

## MAINTENANCE & STORAGE REQUIREMENTS

### PREVENTIVE MAINTENANCE

The Canalta DBB Orifice Fitting has a number of moving parts that benefit from a regular preventive maintenance program. The following procedures are recommended:

- Remove and inspect the orifice plate and seal monthly. Replace as required. Visually inspect the interior of the fitting through the opening and regularly monitor for excessive corrosion or wear.
- Lubricate grease-type slide valves as per operating instructions, or monthly. If the greasing procedure is not performed for 90 days or more, disassemble the unit and re-apply grease to the grease tracks by hand. Do not apply valve seal grease to soft seat units via grease gun;
- Disassemble the orifice fitting every two years or earlier if deemed necessary. Inspect the inner working parts for corrosion and wear. Replace the working parts as required and replace all seals prior to reassembly.

### PRESERVATION & STORAGE

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

- 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;
- Apply rust inhibitor every 3-6 months inside the bore to prevent rust and corrosion;
- Ensure orifice plate and seals are removed from the seal gap, and soft seat slide valves remain in the "open" position during storage. Soft seat units require no additional maintenance during storage. Do not apply valve seal grease to soft seat units via grease gun;
- For grease-type units, apply valve seal grease via grease gun every 90 days to prevent hardening of the sealant medium. Ensure grease-type valves remain in the "closed" position during storage;
- Hydrostatic testing is required before entering service if stored for more than 1 year; replace / re-lubricate seals as required.



## INSTALLATION RECOMMENDATIONS

The DBB 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.

- Always ensure that operating staff are competent and properly trained to operate this and all other pressurized equipment.
- Ensure that the system is designed to send clean fluids to the orifice plate. In some cases, a filter installed upstream of the flow meter and in accordance with the flow profile specifications of the AGA or ISO standard may be required.
- Ensure that the system is designed to provide the following (wherever required): protection against excessive pressure; fire suppression; protection from degrading or otherwise unstable fluids; access limitation while under pressure or vacuum.
- Attention to clearances is essential. Consult the available dimensional drawings and tables for details. Ensure there is operating clearance at the sides of the fitting for pinion gear rotation and operating wrench removal. Ensure, too, that there is clearance above the top of the fitting for removal of the orifice plate carrier.
- When installing the fitting or meter run, check that the flow arrow corresponds to the direction of flow in the line.
- The unit can be installed either in a vertical or horizontal flow orientation. When mounting horizontally, the top housing should be located in the upper position for ease of operation as well as to avoid liquid and debris from accumulating in the upper chamber.
- When used to measure wet gas, the vertical mount is recommended to prevent dam formation against the orifice plate.
- Instrument tap lines should be installed sloping upward to the differential pressure measurement instrument. Where this cannot be accomplished, use seal pots to chemically seal the sensing lines in order to eliminate hydrostatic head errors.
- After the orifice fitting has been piped in, install the bleeder valve, grease gun and indicator plate on the slide valve pinion gear.
- With the two drive screws provided, install the valve position pointer. Ensure that the position on the valve indicator plate corresponds with the position of the slide valve.
- It is recommended that the bleeder valve vent be piped away from the fitting to a safe venting area. It is the responsibility of the end user to ensure the piping system is designed to avoid all harmful effects, such as water hammer, vacuum collapse, corrosion and uncontrolled chemical reactions.
- To avoid damage to the orifice plate, ensure the orifice plate and plate carrier are removed from the fitting prior to pressure testing the system.
- 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.
- DBB Orifice Fittings equipped with the grease style slide valves were lubricated at the factory prior to shipment. If the unit has been sitting out of service for more than 90 days, remove the top housing and reapply grease to the valve seat grease track by hand.
- To avoid over range damage to the differential measurement instruments and orifice plate during initial pressurization, ensure the orifice plate is rolled up out of the flow stream and that the instrument manifold equalization valves are open.





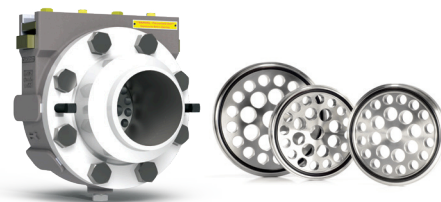
## ADDITIONAL PRODUCT LINES

Canalta also offers a complete lineup of products to fulfill your orifice metering requirements. Visit us on the web at [www.canaltaflow.com](http://www.canaltaflow.com), or contact us to request details.

### The Canalta Flow Conditioner Housing

Bringing easy plate inspection and replacement capabilities to the flow conditioner, this patented design helps you ensure that your flow profile has not been degraded by damage, blockage or residue accumulation by easily accessing the flow conditioner without breaking apart the flow line.

Available in single chamber, dual chamber or DBB configurations with a variety of plate geometries and material specifications for any application.



\*US Pat. 7,806,145



### Parts, Accessories & Repair Kits

Parts and repair kits available for all Canalta 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.

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