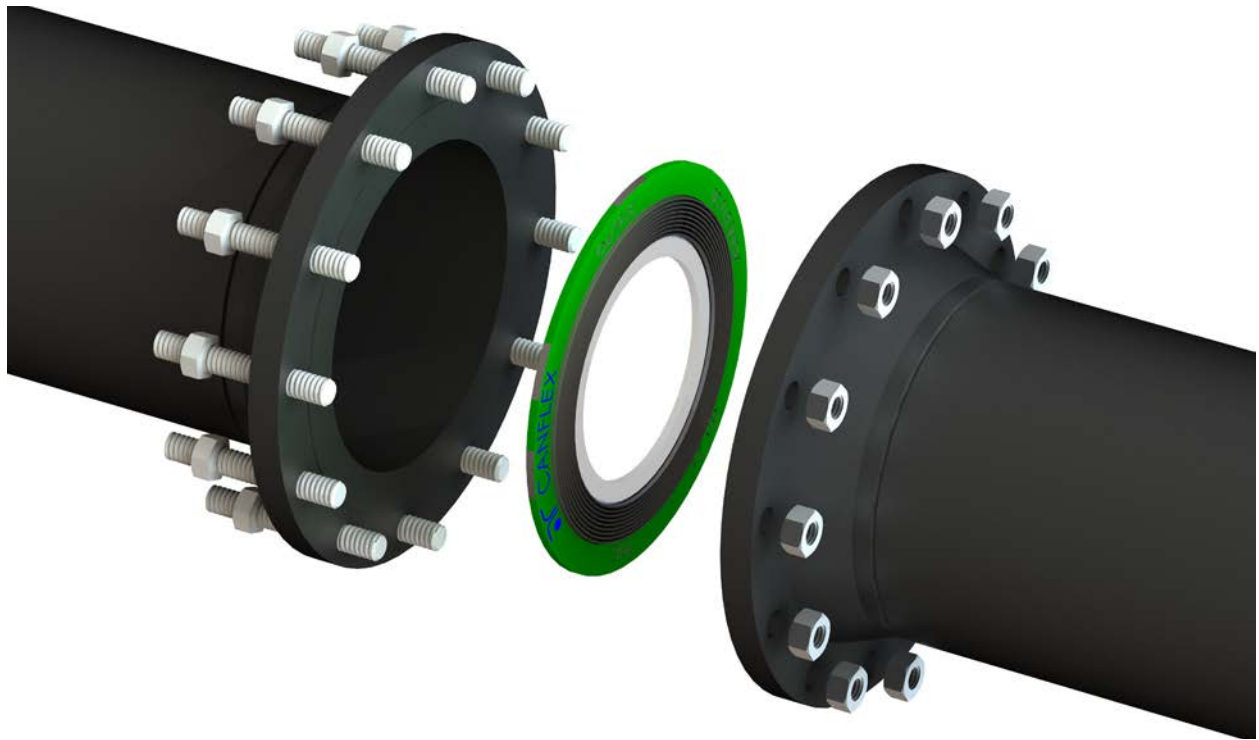


Flange Assembly Demonstration Unit

# TOTAL SEALING INTEGRITY TRAINING



PRINCIPLES FOR ENSURING BOLTED  
JOINT RELIABILITY

# TOTAL SEALING INTEGRITY

## Total Sealing Integrity: Principles for Ensuring Bolted Joint Reliability.



AR Thomson Group Inc. has further enhanced its training programs with the addition of the Flange Assembly Demonstration Unit (FADU) training technology. Customers are now able to witness and participate in hands-on technology emphasizing the variables required to ensure the safe, reliable and repeatable performance of bolted joint assemblies.



### DEMONSTRATIONS CAN INCLUDE:

- Effects of Stud/Nut Lubrication, Stud/Nut Re-Use
- Proper and Improper Bolting Procedures (i.e., Star Pass vs. Single Pass)
- Through Hardened Washers
- Torque vs. Tension

\* See next page for a complete list of training topics available.

As a proud fluid sealing partner with end users throughout Canada for over 50 years, AR Thomson Group Inc. recommends its training sessions to all maintenance and engineering staff responsible with the day to day reliability and integrity of the asset's bolted flanged connections.

### KEY ADVANTAGES OF THE FADU:

- Real-time data display
- Interactive hands-on experience
- Various comparison calculations automatically provided by the software.

### MEMBERS OF:



### TOTAL SEALING INTEGRITY (TSI):

- Pressure Boundary Bolted Flange Joint Assembly (ASME PCC-1-2013)
- Bolt-up Techniques Impact of Good Practice on Compressive Load:
  - Lubrication of Studs/Nuts
  - Re-Use of Studs/Nuts
  - Through Hardened Washers
  - Torque Wrench
- Bolt 'Cross Talk', 'Scatter' and 'Relaxation' During Assembly
- Installation & Disassembly Consideration & Practices
- The Importance of Torque Specifications
- The Relationship of Torque vs. Tension
- Hands-On FADU Operation

### GASKET MATERIAL SELECTION:

- Metallic vs. Non-Metallic Gaskets
- Limitations - Media, Pressure and Temperature Capabilities
- 'STAMP' - Service, Temperature, Application, Media, Pressure

### OTHER TRAINING AVAILABLE:

- Commissioning & Start-Up Training
- Criteria for Gasket Selection
- Reliability & Best Practices
- Qualification Testing for Incoming Personnel
- Pre-Turnaround & Contractor Training
- Plant Engineering, Maintenance & Procurement
- Tool Box Training Sessions
- Valve Packing Installation
- Mechanical Seal Training

### THE EFFECT OF COMPRESSIVE LOAD ON VARIOUS GASKETS:

- Cold Flow & Creep
- Load Retention
- Why Re-Torque?

### CONSIDERATIONS FOR SPECIFIC APPLICATIONS:

- ASME Pressure Vessels
- Large Diameter Flanges
- FRP Chemical Piping
- Oxygen Service
- Flat Face vs. Raised Face Flanges
- Vanstone, Slip-On Flanges



**CUSTOM TRAINING PROGRAM:** Please contact your local AR Thomson Group representative to develop a training program that meets your specific site requirements.

Limitation of liability: actual performance may vary and is determined by factors unique to a given application. It is recommended that care be taken in the selection and application of materials for hazardous services and controlled testing be undertaken to determine suitability for a specific application. A.R. Thomson Group Inc. does not make or imply any warranty of suitability for a particular purpose and is not liable for any damages arising from the use of the information in this sheet.



The A.R. Thomson Group Inc. was established in 1967 as a regional manufacturer & distributor of gaskets and other fluid containment products. With the rapid growth of oil and gas production, petrochemical, oil refining and pulp and paper industries, our manufacturing facilities expanded to meet increased demand for these products. Since 1967, we have developed our expertise and know-how to become the leader in solving fluid containment problems. No matter what your containment needs are, we can help.

## LOCATIONS

### BRITISH COLUMBIA:

Surrey	604-343-2732
Parksville	250-954-1543
Prince George	250-563-1444

### ALBERTA:

Calgary	403-910-7676
Edmonton	780-306-2399
Fort McMurray	780-747-1654
Clairmont	780-357-1291

### SASKATCHEWAN:

Regina	306-271-0765
--------	--------------

### MANITOBA:

204-999-3997
--------------

### ONTARIO:

Sarnia	226-313-4264
Mississauga	289-948-0695

### QUEBEC:

Montreal	514-437-9001
----------	--------------

### MARITIMES:

902-468-9120
--------------

