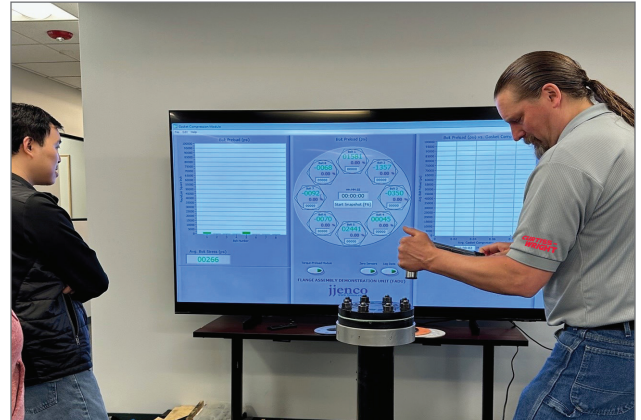
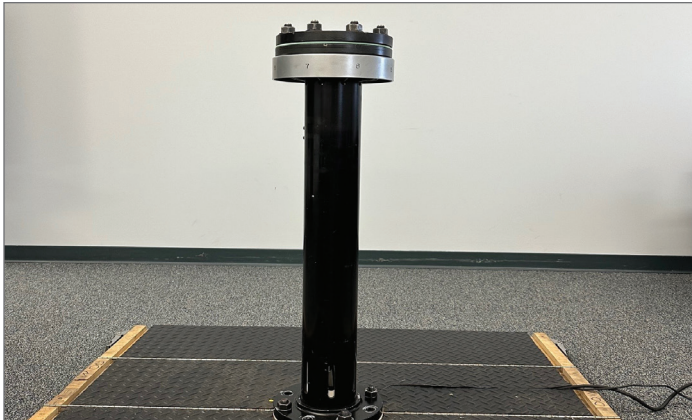


# Flange Assembly Demonstration Unit Training

On-site Bolting Training Techniques

**CURTISS -  
WRIGHT**

Industrial Services



## Optimized Flange Techniques

Curtiss-Wright is a leading provider of fluid sealing technologies and services for Nuclear, Fossil, Pulp and Paper, and Chemical plants, and other industrial facilities. With over 100 years of combined experience, our team is ready to help your plant optimize your torquing and bolting process. Let our team of experts help your plant improve safety and increase equipment reliability. We are excited to offer plant training using our specialized piece of demonstration equipment, which optimizes flange sealing methods and provides unseen insight into bolting and sealing technology.

Our training program includes on-site bolting, sealing, and gasket demonstrations that cover:

- Proper Bolting Techniques
- Pre-turnaround Contractor Training
- In-Plant Contractor Training
- Plant Engineering and Maintenance Training



Mechanics Judgement Study

## Training Modules

1. **Mechanics Judgement** - With this exercise, we demonstrate the variability in the hand-tightening procedure. Using a single stud on the Flange Assembly Demonstration Unit (FADU) unit with a load cell, attendees have the opportunity to see the incorrectly torqued bolts created without employing a bolting program. Attendees then hand tighten a nut, and all results are aggregated into a graph to show the inconsistencies.
2. **Gasket Compression** - This module is used to reinforce the efficacy of a star cross tightening pattern and demonstrate the relationship between stud stress and torque. Attendees are asked to use their plant's bolting procedure and results show the variability in the bolt load, based on the amount of lubrication applied to the stud.
3. **Torque Preload** - Torque Preload can be affected by many small details when torquing bolts. Variables such as proper lubrication, nut direction, use of washers and washer types, and differing types of torque wrenches can all influence the efficacy of a torqued flange.
4. **Assembly Method Comparison (AMC)** - AMC is typically used in a real-life environment where engineers from Curtiss-Wright work with the plant's engineering department to evaluate and ascertain the most effective method of sealing for specific flange and sealing applications.

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