

JOIN US for 3 DAYS of Hands-on Pump Training



WHERE:

WHEN:

INSTRUCTORS:

HYDRO ROCKY MOUNTAIN 115 W. 56th Ave. | Denver, CO 80216

Tuesday, July 18 (8am-5pm) Wednesday, July 19 (8am-5pm) Thursday, July 20 (8am – 3pm)



Bob Jennings Corporate Trainer



John Neely General Manager Field Services



Brad Hutchinson Goulds Product Manager



Senior Field Service

Technical Advisor

William Hipple Senior Field Service Technical Advisor

Classroom Module: An Introduction to Basic Hydraulics and Pump Types

- · Basic Hydraulics Terminology & concepts and a review of basic pump types
- · Pump Performance Curve and interactions with the System Head Curve
- · Effects of operating away from the pump BEP, Cavitation, and NPSHr considerations
- · Overview of vertical pumps and considerations particular to them
- How wear affects flow and pressure

Hands-on Workshop Module: Inspect & Rebuild: Between Bearings (BB) and End Suction (OH) with IMPEL overview

- Overview of design and construction of between bearings (BB) and end suction (OH) pumps
- · Hands-on disassembly and assembly of common Balance of Plant (BoP) pumps
- Utilizing a representative BoP training pump, Goulds 3405, we review in depth the design and assembly of simple pumps. This class also acts as a steppingstone to acquaint the learners with the foundation for the high energy pump modules to follow later in the course.

Classroom Module: Pump Inspection and Rebuilding Guidelines and Techniques

An overview of inspection procedures and practical advice for rebuilding your BoP pumps

Hands-on Workshop Module: Vertical Pumps

- Students will engage in hands-on activity coupled with a detailed Power Point running in conjunction with the activity.
- Utilizes a small, full size simple multistage Goulds model 6x7 MO VICX-SD complete with bowl assembly, columns and discharge head.
- Develops basic understanding of vertical pump design, theory and construction.
- Demonstrates simple alignment technique utilizing machined witness marks located in the discharge head.

Hands-on Workshop Module: High Energy Pumps (IR Model HMTA - BB3)

- · Detailed review of components and their functions
- Centering of the rotor. Set and verify rotor running position, axial thrust, balance disk gap
- · Review best practices and proper repair techniques with "tricks of the trade" information
- Basic pump operations best practices

Shop Module: Pump Failure Modes and Case Studies

- · Broad review of typical failure modes and areas of concentration during equipment health review
- Slide presentation of component failures geared to generate classroom participation and discussion of known issues and concerns relative to specific site "bad actors" and current plant projects
- · Sharing experience and "war stories" with focus on as-found conditions and what can be learned from these events

Learn More/Register

Questions? Contact:

Catherine Miles Cell: 773-590-6736 cmiles@hydroinc.com

Cost: \$2,999 / person

Cancellation Policy: Full refund 7 days prior to the start of training. 50% refund between 3-6 days. No refund 2 days prior.



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