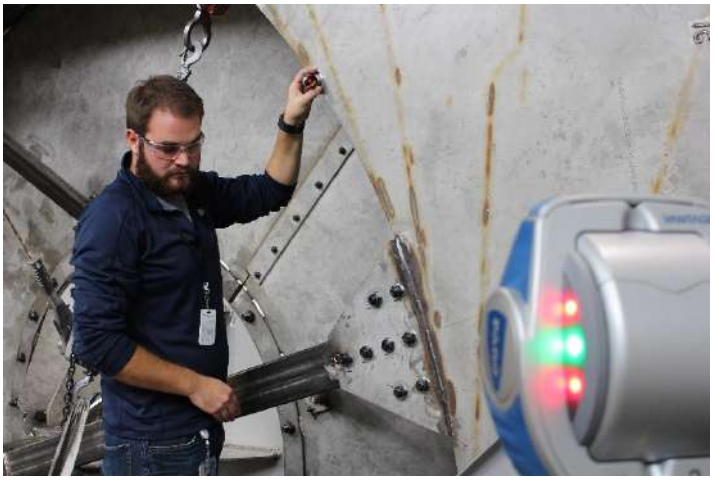
Walker Advanced Manufacturing Innovation Centre

Technical Service Bulletin

Service For: Bosch Rexroth Canada Corp Sector: Motion Control



Rexroth
Bosch Group

Bosch Rexroth is one of the world's leading specialists in the field of drive and control technologies, providing over 500,000 customers with tailored solutions for their driving, controlling and moving applications.

TECHNICAL SERVICE CHALLENGE:

Using conventional fabrication techniques, achieving the tight tolerances required to ensure that a large stainless steel dewatering wheel destined for final assembly in Saudi Arabia would meet dimensional requirements was a tall order. Research and Innovation was approached to assist with a work instruction and monitoring of weldments during the fabrication stages to ensure any deviations were captured early enough in the process to make corrective actions immediately.

DELIVERABLES:

Live monitoring and measurement of large stainless steel wheel during the fabrication and assembly stages. Provided perpendicularity and runout analysis at key stages of the wheels progress. Work instructions were also produced to assist in the disassembly and reassembly of the weldment in the field.

EQUIPMENT USED:

Scanning - FARO Laser Tracker technology which was acquired thanks to an NSERC ARTI grant in 2011.

RESOURCES:

2x Niagara College TAC Staff, 3x - 4 year Niagara College Mechanical Engineering Technology students

DURATION:

8 Weeks

BENEFITS TO INDUSTRY PARTNER:

Higher degree of accuracy in achieving tight tolerances on large fabrications, particularly alloys like stainless steel which are prone to distortion when heated. The ability for Research and Innovation to provide live feedback as the weldment was being manufactured allowed corrective action immediately to the problem area prior to final assembly. The result was a higher quality product with less labour costs and a compressed overall manufacturing tact time.

BENEFITS TO NIAGARA COLLEGE:

Real world job experiences for our students, exposing them to the challenges which manufacturing companies face each day working with large scale fabrications. These experiences foster further learning opportunities utilizing advanced manufacturing technologies and brings further value to a student seeking full time employment after graduation.

For more information, contact Charles Lecompte, Senior Application Specialist, at 905-735-2211, ext. #7173 or clecompte@niagaracollege.ca

Walker Advanced Manufacturing Innovation Centre

Access Technical Services at the Walker Advanced Manufacturing Innovation Centre, your company's R&D partner, located at the Welland Campus of Niagara College. We provide a key competitive advantage to industry, offering access to cutting-edge equipment – and related services – for the development of products and manufacturing processes.

We specialize in

TECHNICAL SERVICES
Including: 3D Printing, 3D Design, 3D Measurement and Scanning

AUTOMATION
Mechanizing a process to decrease human labour and increase efficiency

PRODUCT DESIGN AND DEVELOPMENT
Creating a new product for deployment within your business or to be sold to a customer

REVERSE ENGINEERING
Discovering the technological principles of a device, object or system through analysis of its structure and functions

LEAN MANUFACTURING ASSESSMENT
Analyzing and improving an existing process within your operations

PRODUCT RE-DESIGN AND IMPROVEMENT
Revamping an existing product to improve quality and/or adapt to changing market conditions

Resources & Capabilities

- ***Rapid Prototype Machine***
- ***Laser Scanners (small-scale and room-size)***
- ***Vision System***
- ***Hand Measurement Tools***
- ***3D Computer-Aided Design***
- ***3D Factory Design***
- ***Physical Simulations and Modelling***
- ***Engineering Design***
- ***Electronics and Electrical***

"Niagara College brings youth, enthusiasm and knowledge to a tough playing field where every dollar is critical to the survival of many small businesses."

~Bob Benner, Hamill Machine Company Inc.

NSERC CRSNG

NRC·CNRC Canada
NRC Industrial Research Assistance Program / Programme d'aide à la recherche industrielle du CNRC

Ontario Centres of Excellence

Ontario

Niagara College Canada
APPLIED DREAMS.

Start the conversation today

Together, we will determine how best to meet your needs, whether we perform a quick turnaround service, or a full innovation project. For R&D partnership opportunities, contact us:

ncinnovation.ca