ENGINEERED SOLUTIONS FOR THE RESOURCE INDUSTRY.

DESIGN. BUILD. PERFORM.

Engineered solutions for the resource industry.
## CONTENTS

### ABOUT US 04
- PROUDEST MOMENTS & FACTS 05
- TWO DIVISIONS 06
- GLOBAL REACH 07

### ENERGY EQUIPMENT OVERVIEW 08

### TANKS 10
- FIELD FABRICATED TANKS 12
- SHOP FABRICATED TANKS 14
- RECONDITIONING 16

### PRESSURE VESSELS 18

### OIL PROCESSING EQUIPMENT 20
- HELEX 22
- SKUD 24
- FLASH TREATER PACKAGE SYSTEM 26
- HEATED HDT TREATER PACKAGE 27

### GAS PROCESSING EQUIPMENT 28
- STANDARD & CUSTOM PACKAGING 30

### FOREMOST COATING SERVICE 32

### STEAM GENERATION 34

### COMPRESSION EQUIPMENT 36

---

**IN NEED OF...**

TANKS? VESSELS? TREATERS?

think foremost.ca
About us

OUR PROUDEST MOMENTS

1964 The Mountain “Nodwell Peaks” in Antarctica was named in honour of Foremost’s founders, the Nodwells, due to the enormous support and innovation equipment (Nodwell 10) used in Antarctica. The first Husky 8 was manufactured and sold in 1967. Jack Nodwell closed two contracts in 1970 in Moscow for 67 Husky 8 units.

1970 Bruce Nodwell was made “Officer of the Order of Canada”, Canada’s highest civilian honour for his contribution to the opening of the Canadian North through his inventions and development of tracked vehicles.

1981 Foremost sold the first wheeled “Terra Bus” to Brewster for their Glacier Tours for tourists of the Columbia Ice Fields in Jasper, Alberta. A further 23 buses have been purchased for their fleet.

1984 Foremost won a contract for $36,000,000 for 50 Husky 8G with fire fighting packages, plus spare parts, delivered to the Soviet Union.

1993 A series of commemorative postage stamps, called “Historic Land Vehicles”, was issued by Canada Post Corporation between 1993 and 1996. The Robin-Nodwell RN 110 is illustrated on an 88-cent stamp.

2002 Foremost Mobile Equipment partnered with NASA to launch scientific balloons using our Commander vehicle in the Antarctic, and then worked with them again to develop the NASA Mars Lander Balloon Launch Vehicle used successfully in two launches to date in Hawaii on June 28th, 2013 and on June 8, 2015.

2013 The CNRL Lamella tanks were the largest pieces of equipment to date to traverse Alberta roads.

QUICK FACTS

• In the top 250 largest companies in Alberta (Alberta Venture Magazine).
• 400+ employees.
• $125M per year in revenue.
• Foremost is named after a small town in southern Alberta.
• Two Divisions – Foremost Energy Equipment, Foremost Mobile Equipment.
Foremost began its acquisitions in 1988 with Drill Systems. In January 2013, the Foremost Group of Companies came together under a single name. Universal Industries, Colac Industries, Maloney Industries, Peaceland Fabrication, Stettler Oil & Gas, Brahma Compression, Steelhead Welding, and Foremost Industries launched the beginning of a new era as “FOREMOST”. Today, Foremost has two distinct divisions, Foremost Energy Equipment and Foremost Mobile Equipment, and operates out of 9 locations with over 640,000 sq. ft. of manufacturing space and 400+ employees.

ONE COMPANY
TWO DIVISIONS

ENERGY EQUIPMENT
- Field Fabricated Tanks
- Shop Fabricated Tanks
- Pressure Vessels
- Oil Production
- Gas Production
- Coatings
- Steam Generation
- Compression

MOBILE EQUIPMENT
- Vacuum Trucks
- Dual Rotary Drills
- Mining & Drill Tooling
- Tracked Vehicles
- Wheeled Vehicles
- Exploration Drills
- Oilfield Equipment
- Pipe Handling

FOREMOST PRODUCTS
GLOBAL REACH

WE HAVE THE CAPABILITY TO MOVE OUR PRODUCTS ANYWHERE

EXPLORER III DRILLING RIG, AUSTRALIA
HUSKY 8 TRACKED VEHICLE, RUSSIA
HEAVY DUTY DUAL ROTARY DRILL, INDIA

OUR GLOBAL CLIENT BASE SPANS MANY COUNTRIES IN ALL 7 CONTINENTS
FOREMOST ENERGY EQUIPMENT

Foremost has been a central player in the Western Canadian energy story going back to 1948. Foremost is now one of the largest, most diverse industrial manufacturers in Western Canada with more than 640,000 square feet of manufacturing space in various locations across Alberta. In addition to a wide range of established product lines from oil tanks to pressure vessels, Foremost Energy Equipment is a custom fabrication and engineering company with expertise and resources to provide solutions for unique customer requirements.

Foremost prides itself in being an engineering-focused company. With an experienced team of draftpersons, engineers and estimators, Foremost is a one-stop shop and a leader in innovative and long-lasting products for many industries. Over the years, Foremost has acquired a multidisciplinary expertise spanning: oil treating products, gas processing/packaging, steam generation, HVAC, compression, field and shop tank manufacturing, and pressure vessels through a variety of acquisitions to break new ground and take on exciting projects.

CERTIFICATIONS

Foremost is committed to delivering quality products and is registered and qualified in the following programs to meet and exceed quality industry standards, while always keeping safety at the forefront.

- ASME Section VIII Div 1 (VESSELS SU/UM)
- ABSA CSA B31.1 and B31.3 (Pressure Piping)
- FITTINGS CATEGORY A, B, C
- CWB – Canadian Welding Bureau certification
- TC B620
- Subscribers to and actively complying with:
  - ISNet World
  - ComplyWorks
  - CanQual
  - PICS Auditing
Foremost has been an industry leader in industrial tank manufacturing and fabrication for over 50 years. With over 640,000 square feet of manufacturing space around Alberta, and a significant supply of tanks in stock, Foremost can serve you in a timely manner with a quality product you can count on.

Foremost fabricates shop tanks up to 4000 BBL and field tanks up to 450,000 BBL. All Foremost tanks are designed in house by our team of engineers to industry standards using API 620, 650 and 12F design codes.
FIELD FABRICATED TANKS

FIELD ERECTED TANKS

CUSTOM DESIGNED

With the capability to design and fabricate field erected tanks of up to 450,000 BBL (72,500 m³), Foremost has supported many major projects throughout Canada and around the globe.

With an experienced technical and production staff, Foremost has the unique ability to offer our customers field tank production facilities that include water treatment, oil treating, and other custom designs to suit our customer’s needs.

Our crews have the required safety training and qualifications to ensure all work performed on our customer’s sites is completely safe. We also have certifications from ISNetworld, ComplyWorks, etc. Foremost has API 653 accredited inspectors and project engineers on staff who are qualified in tank design to meet your project needs.

FIELD TANK DESIGN FEATURES

- SELF SUPPORTING CONE ROOFS
- SELF SUPPORTING DOME ROOFS
- DE-SANDING SYSTEMS
- SKIM TANK SUPPORT AND CONSTRUCTION EXPERTISE
- INTERNAL AND EXTERNAL COATINGS, AND INSULATION IN ACCORDANCE WITH INDUSTRY STANDARDS
- HIGH EFFICIENCY CONE BOTTOMS
- HEATED LOW EMISSION (HELEX®) BURNER SYSTEM, GLYCOL HEAT COILS, ELECTRIC HEAT COILS, ETC.
SHOP FABRICATED TANKS

FOREMOST SHOP TANKS
STOCK & CUSTOM

Foremost manufacturers engineered stock and custom-designed shop fabricated tanks from small 400 BBL and 750 BBL sizes up to larger 2000 BBL and 4000 BBL.

With an experienced technical and production staff on hand, Foremost has the required depth to design any custom tank to suit any processing application including heavy oil product, water treatment, oil heating & facility operation. Designs based on industry standards API 620, 650, and 12F available.

TANK SIZES

- 400 BBL
- 750 BBL
- 1000 BBL
- 1250 BBL
- 1500 BBL
- 2000 BBL
- 2500 BBL
- 4000 BBL

TANK TYPES

- STORAGE
- PROCESS
- PRODUCTION
- SKIM
- ASPHALT
- POP
- DE-SAND
- MUD
- FLARE
- RENTAL STYLE

AVAILABLE OPTIONS

- SINGLE AND DOUBLE WALL (UP TO 4,000 BBL)
- CONE-BOTTOM (FROM 750 TO 3,000 BBL)
- INTERNAL AND EXTERNAL COATINGS AND INSULATION IN ACCORDANCE WITH INDUSTRY STANDARDS
- INTERNAL AND EXTERNAL VALVE CONTAINMENT CHAMBERS
- CUSTOM SKID AND/OR ANCHOR CHAIR DESIGN FOR PILE INSTALLATIONS
- HEATED
- FIRE-TUBE/BURNER HEATING SYSTEMS, GLYCOL HEAT COILS, ELECTRIC HEAT COILS, ETC.
TANK RECONDITIONING

Foremost’s team of experienced staff of engineers and labourers can help with modifications and design pressure re-rates. Our team can perform Modifications in the shop or field, which is an excellent way to re-purpose a tank in a cost-effective and timely manner.

OVERVIEW
- Manufacturer and coordinate all tank retrofit projects from inception to completion
- API 653 tank inspections
- Management of tank surplus inventories
- Tank storage

BENEFITS
- Controlled work environment
- Shop repair rates vs. field repair rates
- New shop spec insulation
- Large repair work including roof and floor replacements
- Upgrade old tanks to newest customer specifications (ie. OH&S ladders, envirovaults, venting requirements)
Foremost has been manufacturing pressure vessels for decades. Our experienced designers, engineers, and fabricators have designed and manufactured some of the largest and most complex heavy wall vessels in the industry. Our capabilities include up to 40' diameter, 300' length, 8” thick, and up to 800,000 lbs. We can custom design and manufacture vessels for any process.

**TYPES**
- Separators
- Oil treaters
- Storage bullets
- Flare Knock Out Drums
- Surge vessels
- Slug catchers
- Gas treating towers
- Absorption towers
- Free Water Knockouts
- Scrubbers
- Filters
- Contactors
- Flash tanks

**OPTIONS**
- Sloped or Inclined.
- Carbon steel, stainless, explosion bonded alloys or various weld overlays
Foremost has over 50 years of experience designing and manufacturing crude oil treaters and free water knockouts. Foremost oil treaters have proven themselves under the harshest operating conditions and are backed by our expert engineering and service teams. In our ASME certified pressure vessel shops, treaters are fabricated up to 16 feet in diameter and over 100 feet long, with any design pressure that may be required by our customers. We have also pioneered the Reverse Flow Free Water Knock Out, and the use of the Stream-Flo baffle. Foremost is committed to keeping stock in 6x20, 8x30, and 10x40 treaters and FWKO packages.

**OPTIONS**
- Custom process sizing and design
- Packaging c/w skid, piping, instrumentation, hand valves, building & HVAC, electrical, heat tracing, internal & external coatings, and insulation
- Manual or automatic de-sanding systems
- Vortex inlets to reduce foaming
- High Efficiency Low Emission (HELEX) burner system

**TYPES**
- Cold & heated Free Water Knockout (FWKO) systems
- Cold & heated treaters
**HELEX® FORCED AIR FIRETUBE TECHNOLOGY**

**PRESSURE VESSEL & STORAGE TANK HEATING SYSTEM**

The HELEX® is an alternate heating system for pressure vessels and storage tanks. This forced air burner system offers up to 85% efficiency, which is a 20%-40% gain over conventional natural draft burner systems.

Our patented forced air burner system is not dependent upon stack draft to move the heat through the fire tube as the heat is "driven" through the tube by an electric motor coupled to a blower. This results in improved heat distribution along the surface of the fire tube. As well as the fuel air mixture being fully adjustable which allows the system to be tuned to maximize efficiency.

An important aspect of the HELEX® forced air burner systems is the versatility of its design. Conventional fire tubes are u-shaped to reduce the pressure drop within the system. With the HELEX® forced air system; a fan and motor combination push the heat through the fire tube, thus eliminating any concern over pressure drop, resulting in a significantly more flexible design. For example, the design shown below was offered with our guaranteed not to leak flange design.

The HELEX® can easily be retrofitted into an existing treating equipment. On a typical treater or FWKO, we can increase heat input by up to 100%, thereby increasing throughput by close to 100% as well. One of our existing tank treating retrofits helped to increase the total throughput through an existing facility by 600%.

**HELEX® PAYBACK PERIOD IS TYPICALLY LESS THAN 2 YEARS.**

**FOREMOST HELEX® ADVANTAGES**

01 **HIGH EFFICIENCY**

The stack efficiency in a natural draft system averages 65% on a well tuned burner. The HELEX® fiertube is designed to be 80% efficient, with some field test recording 85% efficiency.

02 **LOW EMISSIONS**

The HELEX® Forced Air Burner System has a lower production of pollution due to lower amounts of fuel being used. They can also be fit to run Low NOx burners.

03 **NOT AFFECTED BY WEATHER**

A natural draft system is highly dependent on ambient conditions. A change in the weather can change the way in which the conventional burner runs. The HELEX® does not rely on the ambient conditions and therefore stays unaffected.

04 **SAFER OPERATION**

Flame arrestors can frost up in the winter. If the air intake is restricted severely enough that complete combustion cannot take place, the combustible mixture can accumulate in the fire tube. If the restriction is suddenly removed (eg. ice knocked off the burner) an explosion can result. Airflow in the HELEX® Forced Air Burner System is controlled. In the case of an airflow reduction the system automatically shuts down.

05 **HEAT RECOVERY**

The HELEX® Forced Air Burner System makes heat recovery from exhaust gasses possible. Recovering heat from the stack would raise efficiencies even higher and further reduce operating costs. This is not possible in a natural draft system since it requires a hot stack in order to draw air into the combustion chamber.

06 **INCREASED CAPACITY & RETROFITS AVAILABLE**

The HELEX® fiertube takes up less volume therefore increasing the liquid holding capacity of your tank or vessel. On a typical treater or FWKO, we can increase heat input by up to 100%, thereby increasing throughput by close to 100%!
SKUD™ INCLINED FREE WATER KNOCKOUT

Our patented SKUD™ Inclined FWKO is the most advanced gravity-driven separator developed in over 50 years and is specifically designed for cost-effective, high-pressure remote bulk water separation.

The SKUD™ incorporates the advantages of both horizontal and vertical separation vessels. The small diameter allows for low cost, high allowable working pressure and relatively small settling distances, therefore reducing the required residence time.

The SKUD™ technology is much more than just a separator. The application philosophy behind it, and the production and reservoir technical experience of our staff, translate into increased reserves and extended economic field life. Foremost has successfully applied the SKUD™ in applications from 8 – 40 API across a wide range of process temperatures and with water cuts from 50 – 90%.

Optimize field return through installation of SKUD™ technology in the following three applications:

1. At a satellite or well pad for direct-to-injection water disposal - no tanks
2. In front of an existing conventional FWKO at a battery or CPF that is at or beyond capacity
3. As an inlet slug catcher (oil and gas applications) at a battery, CPF, or satellite

Foremost Energy Equipment Overview | sales@foremost.ca | www.foremost.ca
FLASH TREATER
PACKAGE
SYSTEM

During a conventional heavy oil treating process, free water and the larger droplets of water in the emulsion are removed by application of heat, chemicals and residence time. The remaining emulsion usually contains small droplets of water (up to 10% BS & W).

The Flash Treater® has been designed to break that remaining emulsion (whether it is a slop feed or the outlet of a conventional treater) which may otherwise be impossible or too expensive to treat. Recovery of this untreatable heavy oil can effectively payout the Flash Treater® quickly.

The Flash Treater® recycles hot dry oil from its outlet to the incoming stream of wet oil. This hot oil will cause the majority of the incoming water to vaporize. The recycling of hot oil, the large volume of oil in the vessel, and the baffled heating path enable the Flash Treater® to handle substantial slugs of water and emulsion without foaming and unstable operation.

BENEFITS
- Polishes oil to below 0.5% BS & W
- Eliminates the need for demulsifiers and other expensive chemicals
- Ability to operate with any amount of feedstock from "shut-in" to full capacity
- High Efficiency Low Emission (HELEX™) burner system to maintain bath temperature and ensure stable operation
- Safe, simple operation

HEATED HDT TREATER
PACKAGE

Foremost "HDT" (Heavy-Duty Thermotreat) Treaters have proven themselves under the harshest operating conditions and are backed by our expert engineering and service teams. In our ASME certified pressure vessel shops, treaters are fabricated up to 16 feet in diameter and up to 100 feet long, with any design pressure that may be required by our customers.

BENEFITS
- Conventional firetube/burner heating systems
- High Efficiency Low Emission (HELEX™) burner system
- Internal coatings, external coatings, and insulation in accordance with industry standards
- Manual or automatic de-sanding systems
- Vortex inlets to reduce foaming
Foremost is focused on developing smarter, easier, more cost-effective ways to manufacture oilfield equipment. A combination of extensive field experience and the ability to keep up with emerging technologies enable us to manufacture premier products. With expert in-house design teams, Foremost can package almost anything. From separator/tank combos to complex process packages, we are a one-stop shop for all of your packaging needs. Our energy equipment product line packages regularly include but are not limited to:

- Pressure vessels
- Structural skid
- Buildings
- HVAC equipment
- Major equipment
- Piping and instrumentation
- Ladders and platforms
- Electrical wiring
STANDARD AND CUSTOM PACKAGING

**STANDARD AND CUSTOM PACKAGING TYPES**

**WELL SITE SEPARATOR PACKAGE, SKID-MOUNTED**

Foremost offers a full range of oil and gas separation equipment and packages from 8” OD to 168” ID. Foremost offers sweet or sour packages from small suitcase style packages to large horizontal packages and complete satellite packages with up to 16 well headers. Our design team can start with flow conditions and design requirements and provide completed equipment in a timely manner using the latest in CAD and instrumentation technology. Foremost stocks 16” OD - 48” OD vertical sweet service packages for quick delivery requirements.

**OPTIONS**
- 2 and 3 phase designs
- Liquid metering
- Gas metering
- Methanol injection
- Chemical injection
- Custom control systems
- ESD loop

**TANK/SEPARATOR COMBINATION PACKAGE, SKID-MOUNTED**

Foremost offers combo packages equipped with tanks from 28 BBL to 200 BBL, which includes a separator vessel, piping to skid edge, instruments including meters, valves and a fuel gas system, plus a tank to store water separated from gas and condensate. Standard and custom designs available.

**OPTIONS**
- Single or double walled storage tanks
- Vessel sizes from 12”D - 48”D
- 2 and 3 phase designs
- Custom control systems
- Methanol injection systems
- Chemical injection systems

**ACCUMETER PACKAGE**

FEE offers a complete line of 2” - 6” compact wet metering packages for wellhead gas metering.

**OPTIONS**
- Optional drip pot separation
- Methanol injection

**GLYCOL DEHYDRATION PACKAGES**

Remove water vapour from natural gas streams to meet typical pipeline and process specifications.

**OPTIONS**
- TEG contactors with bubble cap trays, valve trays, or structured packing available c/w integral scrubbers
- Regenerator with flame arrestor, burner management system, packed still columns, removable firetube and stack, CSA B149.3 compliant fuel gas train
- Fully modularized options with skid, building, electrical, and heat exchangers included

**CUSTODY TRANSFER PACKAGE**

Metering packages to meet custody transfer specifications.

**OTHER TYPES**
- Separator
- Separators with tanks (28 to 200 BBL)
- Wet metering skids
- Accumeter
- Sweet & sour service
- CBM applications
- Sweetener
- Wellsite

**INDIRECT-FIRED LINE HEATERS**

Line heaters help to prevent the formation of hydrates in gas streams. Our fully modularized designs include skid, enclosure, instrumentation, hand valves, and electrical. Existing designs are available as well as custom design.

**OPTIONS**
- 0.5MM BTU to 24MM BTU/HR
- Removable U-tube or marine style firetubes, and stack
- Removable process coils
- CSA 149.3 compliant burner trains
- Fuel gas pre-heat coil
Foremost Coating Service

Foremost’s shop and mobile coating service provides abrasive blasting and protective coating applications, both internal and external, for corrosion prevention. Our Foremost NACE Certified Team completes surface preparation, and provides coating applications according to the strictest quality standards in accordance with NACE and SSPC regulations. Foremost can also perform coatings maintenance and repairs according to NACE standards. Foremost Mobile Coating Service equipment can be scaled to any job, of any size. Our equipment will get the job done quickly and with precision.

SERVICES
• Corrosion prevention
• Fireproofing
• Urethane insulating
• Tank painting
• Tank Lining (plural component and single component)
• Fibre glassing
• Floor coatings
• Abrasive blasting
• Soda blasting
• Thermal Spray Aluminum

APPLICATIONS
• Tanks
• Vessels
• Structures
• Piping
• Mills
• Municipal
Foremost is a pioneer in the field of enhanced oil recovery. We offer portable steam generation systems from 7.5 MMBTU/hr to 25 MMBTU/hr capable of producing up to 272 m³ of water into 80% quality of steam at pressures up to 2500 PSI. Typical operating range is 700 – 2000 PSI at a rate of 100 to 250 m³/day of steam (cold water equivalent). Our steam generation systems also come with appropriately sized sodium zeolite water softening systems, portable all-weather enclosures, and other related equipment for full turn-key operation. We offer the service of reconditioning existing customer steam generation equipment. Rental generators are also available.

- Design and manufacture up to 250MM BTU/HR
  - 2500 PSI operating range
- Turnkey rentals (Steam Pilots)
  - 25MM BTU/HR generators
  - Water softening systems
  - Storage tanks
  - Operations
  - Indirect-fired heating equipment
Brahma Compression, a Foremost Company specializes in casing and vapour recovery, booster compressors, and low pressure blowers. We engineer and manufacture the most complete line of low horsepower gas compression products on the market today.

**TYPES**
- Screw compressors – gas driven or electric (45-188 HP)
- Reciprocating compressors (99 - 220 HP)
- Low pressure gas gathering (45 – 99 HP)
- Casing Gas Recovery – hydraulic or electric (25-125 HP)
- Vapour Recovery – sweet & sour service, electric or gas driven (10-400 HP).

**APPLICATIONS**
- Casing Gas Recovery - CGR
- Vapour Recovery - VRU
- Booster
- Blower – XLP
- Custom

**RENTALS**
- Screw compressor rental units ranging from 15 – 188 HP; short and long term rentals
- Casing gas compressors – 25-125 HP; short and long term rentals

Brahma Compression has the largest rental fleet of small horsepower compression in Western Canada with 135 rental units ranging from 15 HP to 200 HP. For more information, please visit www.brahmacompression.com.

**SERVICE & PARTS**
- We service and carry parts for all products manufactured by Brahma Compression
- Field technicians and parts warehouses throughout Alberta, Saskatchewan and British Columbia.