

EM Manufacturing Ltd.

**MACHINED.
FABRICATED.
ENGINEERED.**

**ASME
CWB
CERTIFIED**

Welcome to Enermax Mountain Manufacturing Ltd.

EM Manufacturing Ltd. came into existence in 2010 after the amalgamation of Enermax Fabricators Ltd. and Mountain Manufacturing 2002 Ltd. The two companies have over 50 years of combined expertise in a broad spectrum of applications including: Industrial, Infrastructural, Commercial, Institutional, and Marine. We specialize in custom manufacturing, repair and engineering design consulting of mechanical process equipment, pressure vessels, heat exchangers custom valving, piping and associated miscellaneous steel fabricated supporting components.

We are uniquely positioned among custom manufacturing companies to provide Professional Engineering and design services. EM Manufacturing Ltd. is CWB and ASME certified and possess both the 'U' and 'S' stamps.

With our new facilities construction completed the doors opened in March 2010. We are now centrally located in Maple Meadows Business Park adjacent to the Golden Ears Bridge in Maple Ridge.

Manufacturing

We possess a wide breadth of welding, fabricating and machining capabilities. Our new shop combines advanced equipment including: manual, water-jet, and CNC machinery with TIG, MIG and Arc welding machines run by our highly skilled technicians. Despite being largely a custom manufacturing shop, the merger of Enermax Fabricators Ltd. and Mountain Manufacturing 2002 Ltd. has provided EM Manufacturing with a great deal of experience in the following areas:

HEAT EXCHANGERS: EM provides complete design engineering of both 'tube & shell' and air cooled heat exchangers. Our heat exchangers are designed and selected to meet or exceed both thermal and mechanical operating conditions specified by the customer. Wherever practical, designs will incorporate features that will eliminate or minimize problems arising due to corrosion, erosion, vibration, fouling and differential expansion. Manufactured heat exchangers include condensers, vaporizers, kettles, liquor heaters & coolers, high pressure gas heaters, effluent coolers and immersion heaters.

PRESSURE VESSELS: EM services include complete mechanical design of pressure vessels meeting ASME Section V111 Div. 1 (latest addenda) and client specifications. EM vessels comply with all applicable code requirements and are registered with Provincial or Nation Board authorities. Manufactured pressure vessels include knock out drums, accumulators, receiver tanks, condensate & flash tanks, fillers, submersibles and hyperbaric chambers.

EM manufactures custom hyperbaric chambers that are built to ASME VIII Div 1 and the PVHO-1 Code requirements. Our hyperbaric chambers are currently being used for various medical facilities. EM hyperbaric chambers are available in mono-chamber designs or larger multi-person chambers for institutional purposes with seating for more than twenty people. Medical licenses can be obtained as per application.

STORAGE TANKS & IMMERSION HEATERS: EM domestic hot water tanks (DHW) meet specified storage volumes and design conditions defined by our customers. EM DHW tanks are commonly manufactured in two styles: carbon steel (with a concrete or epoxy lining) or 304L stainless steel suitable both suitable for potable water. All EM DHW tanks carry a conditional 5 year warranty.

EM Immersion heaters are designed to match temperature and recovery rates as specified. EM heaters are constructed typically of copper, brass or stainless steel. EM double wall immersion heaters comply with the latest Canadian plumbing codes for potable water.

Tanks for the storage of fluids other than potable water are designed and manufactured in accordance with American Petroleum Institute (API) standards. API tanks can be designed and fabricated and shipped whole or in part for field commissioning.



VALVES: Our valves are a fabricated globe type design within the size range of 24" to 84" diameter. Normal application is shut-off but we can supply modulating valves for mixing of gas streams or for taking side streams. The angle valves are used in the sulfreen process shut off while regenerating the contactors. The mixing valves are used for combining gas streams to obtain specific downstream temperatures.

EM factory tests all installed gaskets and seals to ensure there is no leakage. EM provides valve fabrication to ASME VIII Div 1 ('U' stamp) if required. Depending on application our carbon steel has a pressure and temperature rating of 650°F (343°C), while our stainless steels with refractory lining is rated at 1300°F (704°C).

MISCELLANEOUS STEEL FABRICATION: EM regularly produces items such as machinery frames and bases, machine components, conveyors, screw conveyors, structural steel, platforms, staircases, caged safety ladders, storage tanks, gear casings, handrails and many other steel components.

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Repair

Our highly trained professionals specialize in overhauls, repairs, rebuilds, modifications, upgrades, and eliminating operating issues to all types of existing mechanical equipment. We commonly undertake repairs to the following:

Ammonia Chillers
Blowers
Cement Screws
Compactors
Compressors
Conveyors
Crane Boom Struts
Docks Spouts

Fans
Feeders
Forming Rolls
Gearboxes
Grain Flingers
Heat Exchangers
Hydraulic Cylinders
Mining Equipment

Onsite Repairs
Petro Chemical Process Equipment
Pressure Vessels
Press Brakes
Pumps
Roller Skid Dollies
Scissor Lifts
Shaft Assemblies

Submersible Vessels
Tank Heaters
Valves
Winches
Wire Draw Machines
Wire Spooling Machines
Shredders
Structural Steel

We also offer complete heat exchanger cleaning, complete or partial replacement of tube bundles and repair or alteration of existing pressure vessels to suit revised operating conditions.

Engineering Design & Consulting

EM Manufacturing performs consulting engineering on projects related to containment of pressurized fluids and thermal design. These services are offered in conjunction with, or separate from our fabrication services. These projects are mainly conducted using one of the following engineering codes:

ASME Section VIII Division 1
CWB
British Standard
API Standard
TEMA
Lloyds Registry

Some examples of the type of projects that exemplify our specific areas of expertise in Engineering include:

- Fatigue analysis of new and existing vessels.
- Mechanical design of super-conducting magnet containment and cryogenic shielding.
- Mechanical and thermal design of chlorine vaporizer and amine accumulator.
- Wind and seismic design of towers and other free standing vessels.
- Piping stress analysis and WRC-107 nozzle loading calculations.
- Finite element analysis of specialized tank and vessel designs.



Machine Shop

Our shop is fully equipped with a wide range of machines. Can't find a replacement part for a critical piece of equipment in your facility? EM can produce a replacement unit based on your requirements.



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