Solutions Overview
Tundra Process Solutions Ltd. was founded as an instrumentation and controls specialist in 1999. Tundra has since grown and diversified, and now provides a variety of solutions with a focus on in-house design and integrated packages to suit industrial, light industrial, and commercial process applications.

When it comes to complete turnkey solutions, Tundra specializes in instrumentation & controls, boilers & steam generation, water treatment, motors & drives, valves & actuation, artificial lift, panels & buildings, truck offloading, and train loading.

Tundra recognizes the need for support beyond standard working hours, and Tundra offers 24/7 service to ensure clients are supported all day, every day.
Originally founded as Tundra Controls Ltd., Tundra Process Solutions Ltd. has been an instrumentation and controls specialist since 1999. Tundra has grown into a full solution provider representing manufacturers specializing in water, boiler, pipe, artificial lift, motors & drives, instrumentation, actuation and valve solutions. Additionally, Tundra provides in-house design, custom engineered solutions and integrated packages.

Tundra recognizes that clients need more than just daytime support. Tundra offers 24/7 service to ensure that you’re fully supported all day, every day.

When it comes to a complete turnkey solution, Tundra has you covered!
**Boilers & Water Treatment**

In addition to world-class packaged boilers, Tundra offers burner and control upgrades to optimize and ensure combustion efficiency as well as CSA B149.3 compliance. Quality valves and steam traps are available for immediate delivery to keep your boiler room running. Tundra’s team of factory trained technicians offer 24/7 service to ensure your system is never down.

Take advantage of Tundra’s “water in, steam out” process guarantee. Combine Veolia water treatment technology with Cleaver-Brooks steam generation to ensure safe, reliable and efficient process operation.

**Veolia** manufactures world-class water treatment plants and specializes in the Alberta Oil & Gas market. From raw water entering the facility to process water and waste stream management, Veolia products ensure environmental regulatory compliance, energy efficiency and production optimization.

» Comprehensive Water & Wastewater Solutions
» Unique De-oiling Technologies
» Evaporation & Crystallization Technology
» Advanced Filtration Treatment Solutions
» Full Service Water Management Solutions
Tundra Process Solutions is the exclusive distributor for Cleaver-Brooks in Alberta and Saskatchewan. Cleaver-Brooks is leading the industry with research and development of commercial and industrial steam boiler technology and auxiliary equipment for any steam or hot water system. For the oil sands market, the large capacity Cleaver-Brooks forced-circulation oil sands steam generator (FC-OSSG) offers industrial users the benefits of traditional D-style watertube boilers and the ease of cleaning of once-through steam generators (OTSG).

Cleaver-Brooks is the only manufacturer that offers boilers, burners and control systems that are 100% designed, engineered, manufactured and integrated by one company. This design philosophy and ongoing research and development ensures Tundra clients benefit from the latest available technology. All industrial boilers can be custom designed to any specification and will withstand changes in water quality, heat flux and flow.
Motors & Drives

As Toshiba’s exclusive partner, Tundra Process Solutions sells and services all Toshiba low and medium voltage motors, adjustable speed drives, motor starters and custom control gear. Toshiba’s reputation is founded on a no-compromise philosophy for product design, manufacturing and after-sales service. With a large in-stock inventory of motors, drives and spare parts, Tundra is able to deliver a quick turnaround time on all products and services. In-house testing and repair services are available and factory trained technicians can be dispatched to site 24/7.

TOSHIBA LOW VOLTAGE MOTORS EQP GLOBAL SERIES

> EQP Global Severe Duty (SD), EQP Global 840 (Mill & Chemical) and EQP Global 841 (Petro-Chemical)
> NEMA Premium® efficiency (1 – 500 HP)
> Low voltage motors (0.5 – 1500 HP)
> Voltages up to 690 VAC
> Speeds from 3600 to 600 RPM (2 pole to 12 pole). Other speeds available if required.
> Dual-frequency 50/60 Hz
> Vertical and horizontal mounting
> Complete range of enclosures:
  > Totally Enclosed Fan Cooled (TEFC)
  > Totally Enclosed Explosion Proof (TEXP)
  > Open Drip Proof (ODP)
  > Totally Enclosed Air Over (TEAO)
  > Weather Protected (WPI & WPII)
> Global motor specifications including CE, NEMA and IEC
> Multi-mount on 140 through 445 and N449T frames

TOSHIBA MEDIUM VOLTAGE MOTORS

> HP Range 200 – 70,000 HP
> Voltages up to 13,000 V
> Speeds from 3600 to 600 RPM (2 pole to 12 pole). Other speeds available if required.
> Complete range of enclosures:
  > Weather Protected (WPI & WPII)
  > Totally Enclosed Fan Cooled (TEFC)
  > Totally Enclosed Air-to-Air Cooled (TEAAC)
  > Totally Enclosed Water-to-Air Cooled (TEWAC)
  > Totally Enclosed Force-Ventilated (TEFV)
  > Open Drip Proof (ODP)
> Vertical and horizontal mounting
> Manufactured to meet worldwide standards (NEMA, IEC, BS, AS)
> Latest edition to API 541, 546, 547 general and special purpose
> Squirrel cage and wound rotor induction motors
> Synchronous motors
TOSHIBA LOW VOLTAGE ADJUSTABLE SPEED DRIVES (ASD)

» Sizes from 0.5 to 1500 HP
» Voltages 230, 460, 575, 690 VAC
» Outdoor installation (NEMA Type 3R, 4, 4X)
» Indoor installation (NEMA Type 1, 3, 12)
» Dual-frequency 50/60 Hz
» Low harmonic solutions

TOSHIBA MEDIUM VOLTAGE ADJUSTABLE SPEED DRIVES (ASD)

» Toshiba T300MVi® and MTX Medium voltage drives ranging from 300 to 20,000 HP
» T300MVi® and MTX 2400 V, 4160 V, 6600 V, 13.8 kV and REGEN
» Sync-XFER®/capture (multiple motors synchronized transfer and capture)
» Dual-frequency 50/60 Hz
» Enclosure NEMA Type 1 and 3R
» 24/36 pulse harmonic cancellation complies with IEEE-519

RIG DRIVE (STAND ALONE FULL SIZE)

» Standard 6, 12 and 18 pulse
» Designed for drilling
» Modular configurations for flexible applications on specific power configurations
» Power and reliability in a small footprint
» Rugged and compact package design for the most demanding rig applications

POWER APPARATUS & COMPONENTS (PAC)

» MV switchgear and control gear
» Medium voltage motor starters:
  » Full Voltage Non-Reversing (FVNR)
  » Full Voltage Reversing (FVR)
  » Reduced Voltage Autotransformer (RVAT)
» Solid State Starter (SSS)
» Components: contactors and relays

TUNDRA INTEGRATED SOLUTIONS

» Sizes up to 1500 HP
» Voltages 230, 460, 575, 690 VAC
» Outdoor installation (NEMA Type 3R, 4, 4X)
» Indoor installation (NEMA Type 1, 3, 12)
» Dual-frequency 50/60 Hz
» Panel solutions:
  » Low harmonic panels
  » Pump Jack Panels (PJP)
  » Screw Pump Panels (PCP)
  » Electric Submersible Pump Panels (ESP)
» Buildings
» Skids
Instrumentation & Controls

Tundra Process Solutions is one of Western Canada’s largest instrumentation, measurement and control solutions suppliers. Tundra specializes in selecting, sizing and supplying equipment to support all flow, level, tank safety, measurement and analytical requirements. To support Tundra’s valued clients, Tundra offers in-house factory trained service technicians and sales support to assist with any programming, troubleshooting or start-up and commissioning activity.
Pressure, Temperature, Differential Pressure, pH, ORP, Oxygen Combustion Gas Analyzers, Process Controllers & Indicators & TotalFlow Natural Gas Chromatographs

Gas Measurement, Moisture & Humidity Measurement, Pressure, Test & Calibration Equipment

Magnetic Level Gauges, Radar, Magnetostrictive & Laser Level Transmitters, Thermal Dispersion & Vibrating Fork Point Level Switches, Differential Pressure & TotalFlow LevelMaster.

Pre-Insulated, Heat-traced Tubing Bundles, Winterization Enclosures & Instrument Stands

Combustible & Toxic Gas Detection, Enhanced Laser Diode Spectroscopy (ELDS) Open-Path Laser-based Detection

Fixed Ultrasonic Gas Leak Detectors For The Oil, Gas and Processing Industries

Fixed Gas & Flame Detection, Turnkey Integrated PLC based Monitoring & Control Solutions

Combustible & Toxic Gas Detection, Flame Detection, Ultrasonic Gas Leak Detection, Control Systems

The Safety Company by MSA

ABB Channel Partner GE Oil & Gas

ABB K-TEK

O’Brien

Senscient

GASSONIC by General Monitors Company

Gas & Flame Detection
Valves & Actuation
Tundra Process Solutions’ Valves & Actuation Division offers an extensive selection of valves used in isolation and control applications while providing complete actuation solutions for all types of linear and quarter turn valves. Their full line of pressure management devices to provide safety and protect important equipment. Tundra offers a comprehensive selection of steam traps and certified technicians to perform facility steam audits and steam trap surveys to optimize plant efficiency and reduce unexpected maintenance.
Tundra Process Solutions’ Valves & Actuation Division offers an extensive selection of valves used in isolation and control applications while providing complete actuation solutions for all types of pressure management devices to provide safety in isolation and control applications. Their full line of pressure management devices includes:

- **Pressure Vacuum Relief Valves**
- **Liquid Shutoff, API Approved**
- **High Performance ON/OFF Ball Valves & Through Conduit Gate Valves**
- **General Purpose Control Valves Safety Valves**
- **Severe Service Control Valves**
- **Automation Solutions ISOLATION CONTROL ACTUATION**
- **Industrial Valves & Flame Arrestors**
- **Solenoid Valves, Filter Regulators**
- **Rotary Control, Cageball Actuators & Positioners**

Tundra offers a comprehensive selection of steam traps and gate, globe and check valves. High performance severe service valves ensure operation and protect important equipment. Tundra offers a comprehensive selection of steam traps and gate, globe and check valves. High performance severe service valves ensure operation and protect important equipment.


For more information, contact Tundra Process Solutions for complete actuation solutions.
Panels & Buildings

Tundra Process Solutions provides custom engineered solutions including prefabricated panels, buildings and equipment.

In-house designers work with clients to design custom equipment to meet any specification. High quality and robust indoor/outdoor designs ensure long-life and product performance.

**CUSTOM PANEL SOLUTIONS**

» Available voltages 230, 460, 575, 690 VAC
» Outdoor installations (NEMA Type 3R, 4, 4X)
» Indoor installations (NEMA Type 1, 3, 12)
» Compact design for reduced space requirements
» Reduces operating costs
» Reduces downtime
» Ability to start an ESP while motor is spinning
» Sequence-start for use on wells with stuck pumps
» Soft-start function
» Load-side, phase-to-phase, short-circuit protection
» Sine wave output filter standard
» Low harmonic option available

**ESP Options**

» Prepackaged pad systems
» Indoor self-contained building
» Outdoor open grate skid mount

**LOW HARMONIC**

» Available voltages 230, 460, 575, 690 VAC
» Outdoor installations (NEMA Type 3R, 4, 4X)
» Indoor installations (NEMA Type 1, 3, 12)
» Limits total current harmonic distortion to 8% TDD (<6% typical at full load)
» The LH Series ASD meets current distortion limits outlined in IEEE Std 519-1992 “IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems” based on an ISC/IL level of 20+
» Lower filter cost when compared with 12 & 18-pulse designs
» Decreased sensitivity to voltage imbalance when compared to 12 & 18-pulse designs
» Decreased sensitivity to line disturbances vs. Active Front End (AFE) drive-based filters
» Uninterrupted operation; the ASD will continue to operate in the event of a filter shutdown

**RTU PANEL**

» Outdoor installations (NEMA Type 3R, 4, 4X)
» Indoor installations (NEMA Type 1, 3, 12)
» Custom panel sizes to suit any installation requirement
» Available as a standalone unit or a complete system package
» Flow computer, well-optimization and remote monitoring integration
» Certified to CAN/CSA STD C22.2 for use in Class-1, Division-2 hazardous locations
CHEMICAL INJECTION MANAGEMENT
» Custom tank and pump packages available to meet your applications and provide injection perfection
» Allows for automatically adjusted injection rates through SCADA
» Allows for excess chemical to be recycled back to tank to keep multi-component chemicals from separating
» Expanded low end pump range down to 0.5 litres/day with continuous injection

TRUCKED LIQUID MEASUREMENT
» Monitoring of single well battery production
» Accurate daily accounting of received fluids with simple integration of data to production accounting programs
» Directive 17, Section 10 compliant metering packages
» API 11.1 (2004) and API 2540 compliant net oil calculations
» Identification of products not satisfying the quality control requirements

COMMUNICATION, CONTROLS & MARSHALLING PANELS
» Outdoor installations (NEMA Type 3R, 4, 4X)
» Indoor installations (NEMA Type 1, 3, 12)
» Custom panel sizes to suit any installation requirement
» Available as a standalone unit or a complete system package

SCREW PUMP (PCP) & PUMP JACK (PJP)
» Available voltages 230, 460, 575, 690 VAC
» Compact design for reduced space requirements
» Extend driven equipment life
» Outdoor installations (NEMA Type 3R, 4, 4X)
» Indoor installations (NEMA Type 1, 3, 12)
» Increases pump efficiency
» Dynamic braking resistor as a standard
» Reduce operating costs
» Maximize total output
» Low harmonic option available

VFD/ELECTRICAL BUILDINGS
» Tundra offers a full range of buildings, options and accessories for a variety of applications
» Packages include integration of Toshiba drives, HVAC and electrical requirements
» Minimize customer resource requirements:
  » Take advantage of Tundra’s procurement, design and construction services
  » A single package warranty to manage
  » One point of contact for support

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SSi Artificial Lift Intelligent Rod Pumping System

Tundra Process Solutions manufactures and distributes the SSi Artificial Lift Intelligent Rod Pumping System. Tundra’s patented technology is used to increase efficiency, uptime and production.

The SSi Artificial Lift Intelligent Rod Pumping System uses patented logic, variable frequency drive (VFD) control, hydraulic intelligent monitoring to improve well production. The system offers a much lower total cost of installation when compared to other forms of artificial lift.
SURE STROKE INTELLIGENT™ LIFT SYSTEM
Increase efficiency, uptime and production. Try an SSi™ Lift System today.

**MODEL 250**

<table>
<thead>
<tr>
<th>Model</th>
<th>Strokes Per Minute</th>
<th>Horsepower</th>
<th>Lifting Capacity</th>
<th>Stroke Length</th>
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<tbody>
<tr>
<td>250-15-240</td>
<td>2.2</td>
<td>15</td>
<td>25,000 lbs</td>
<td>240”</td>
</tr>
<tr>
<td>250-25-240</td>
<td>2.8</td>
<td>25</td>
<td>25,000 lbs</td>
<td>240”</td>
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<tr>
<td>250-40-240</td>
<td>4.4</td>
<td>40</td>
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<tr>
<td>250-60-240</td>
<td>5.3</td>
<td>60</td>
<td>25,000 lbs</td>
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<tr>
<td>250-75-240</td>
<td>6.0</td>
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**MODEL 350**

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**MODEL 400 LS**

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<tbody>
<tr>
<td>400-40-288</td>
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<td>40</td>
<td>40,000 lbs</td>
<td>336”</td>
</tr>
<tr>
<td>400-60-288</td>
<td>2.0</td>
<td>60</td>
<td>40,000 lbs</td>
<td>336”</td>
</tr>
<tr>
<td>400-75-288</td>
<td>3.4</td>
<td>75</td>
<td>40,000 lbs</td>
<td>336”</td>
</tr>
<tr>
<td>400-100-288</td>
<td>3.7</td>
<td>100</td>
<td>40,000 lbs</td>
<td>336”</td>
</tr>
<tr>
<td>400-125-288</td>
<td>5.1</td>
<td>125</td>
<td>40,000 lbs</td>
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**MODEL 600**

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<tbody>
<tr>
<td>600-60-336</td>
<td>1.7</td>
<td>60</td>
<td>60,000 lbs</td>
<td>336”</td>
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<tr>
<td>600-75-336</td>
<td>2.0</td>
<td>75</td>
<td>60,000 lbs</td>
<td>336”</td>
</tr>
<tr>
<td>600-100-336</td>
<td>2.3</td>
<td>100</td>
<td>60,000 lbs</td>
<td>336”</td>
</tr>
<tr>
<td>600-125-336</td>
<td>3.2</td>
<td>125</td>
<td>60,000 lbs</td>
<td>336”</td>
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**MODEL 800**

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<tbody>
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<td>2.1</td>
<td>100</td>
<td>80,000 lbs</td>
<td>360”</td>
</tr>
<tr>
<td>800-125-360</td>
<td>2.8</td>
<td>125</td>
<td>80,000 lbs</td>
<td>360”</td>
</tr>
<tr>
<td>800-150-360</td>
<td>3.0</td>
<td>150</td>
<td>80,000 lbs</td>
<td>360”</td>
</tr>
</tbody>
</table>

*Higher speeds may be available, please consult factory
Maintenance & Support

Tundra’s Reliability, Maintenance & Support team can solve the most challenging maintenance and reliability issues. Tundra offers factory trained technicians that are available 24/7 to assist with start-up, commissioning, preventative maintenance programs and repairs. Tundra holds a Certificate of Recognition (COR), and believes in safety as a core value.

Tundra will also work alongside facility and equipment owners to develop scheduled maintenance plans — mitigating unexpected shutdowns and stoppages. Tundra’s Reliability Specialists combine efficient work processes with hands-on skills that generate immediate and measureable results, and work to develop and improve existing asset management programs and plans.

Tundra’s Service Department provides:

» Certified factory trained technicians available on-call 24/7
» On-site service capabilities for industrial and commercial customers
» Remote troubleshooting and tech support
» Same-day response
» Emergency shipments available 24/7
» Long-term and short-term maintenance agreements
» Over $5,000,000 in stocked parts inventory
» Computerized inventory link system with over 6,000 additional parts ready for shipment

Reliability-Services offered

» Tundra’s team is committed to help with asset intensive industries to deliver sustainable equipment performance.
» Reliability Centred Maintenance (RCM)
» Failure Mode Effects Analysis (FMEA)
» Preventative Maintenance (PM)
» Root Cause Analysis (RCA)
» Reliability Engineering (RE)

Tundra’s Service Department is certified in:

» H2S Alive
» Transportation of Dangerous Goods (TDG)
» Workplace Hazardous Materials Information System (WHMIS)
» Lockout/Tag-out
» Fall Protection
» First Aid
» Petroleum Safety Training (PST)
» Construction Safety Training Systems (CSTS)
» Confined Space and Rescue
» ARC Flash
» Wildlife Awareness

Tundra subscribes to:

» ComplyWorks
» ISNetworld
» Avetta (formerly PICS)

THE TUNDRA GUARANTEE

Tundra offers a 100% satisfaction guarantee on all products, parts and services.
The Tundra Guarantee

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