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Professional results are realized when well trained people use high quality, reliable equipment and technology. MVS is an innovative, professional and knowledgeable solutions provider to the construction industry. We supply our customers with the right tools that enhance the accuracy, efficiency, connectivity and safety of the work they do. Using GPS, robotic total stations, laser and weight measurement systems, construction and engineering customers are able to increase productivity and profitability, dramatically, with MVS solutions.

MVS supports their customers with a suite of associated rental equipment including laser levels, test ball plugs, shoring systems for trenching and steel road plating, along with general construction and surveying equipment and supplies.

MVS is dedicated to ensuring that your company fully realizes the benefits and capabilities of your new equipment. We have manufacturer certified service technicians with top of the line, well equipped service centers. Installations are performed by MVS Service Technicians that are trained and certified by our manufacturing partners.

MVS is committed to partnering with you and your staff to maximize the productivity of your company through the use of your new equipment now and in the future.

**TIP**

**Equipment Purchase Financing**

MVS works closely with a variety of lenders that understand your industry and can provide equipment purchase financing options that make sense for your business. Financing your equipment purchase can improve your short-term cash flow since you don’t have to use cash on hand to pay for the equipment before it starts helping you generate revenue. If this sounds like a good idea to you, ask your MVS representative for more information.
“As a supervisor for Alpine Drywall, I am in charge of the layout on our South Calgary Health Campus project. Due to the size and complexity of the job, we chose to use a Trimble robotic total station equipped with LM80 software, to assist us in the layout of the jobsite. Mountainview Systems, through Jeff Van De Walle, supplied us with the Trimble SPS700 Total Station. It has proven itself to be an excellent unit for the task needed. Training and support for the unit by Mountainview Systems has been excellent! Jeff knows the equipment and is always on hand if needed.”

- Brian Bourassa, Supervisor, South Calgary Health Campus, Alpine Drywall
GeoMax GNSS | Zenith10 & Zenith20 Series

The fully integrated GNSS Zenith 10 & Zenith 20 are complete and fully integrated satellite positioning systems. They are comprised of only two main components, a GNSS antenna and a handheld computer that can be set up on a pole or tripod.

The integrated wireless technology, provides a completely cable free and light-weight solution that is ready for an entire day’s work.

FieldGenius software makes positioning easy and includes many features to satisfy even the most demanding user. Finish tasks faster than ever before with the fully integrated Zenith Series.

Quality GNSS
Equipped with state-of-the-art NovAtel satellite receiver technology, the Zenith10 & Zenith20 provide maximum performance. The AdVance® RTK technology developed by NovAtel ensures maximum positioning availability under challenging conditions.

GeoMax offers two types of GNSS receivers, The Zenith10 with 72 channels and the Zenith20 with 120 channels. Both receivers can track satellite signals of the GPS and GLONASS type. The Zenith20 additionally supports Galileo. By having access to a maximum number of satellites, positions can be determined at any time, ensuring the GeoMax GNSS works when you do!

Complete Flexibility
The Zenith10 & Zenith20 are completely flexible systems, with all the communication devices integrated into the antenna. It’s easy to swap between the UHF radio to receive correction data from a local reference station and the GSM modem to receive corrections from a regional network. At times when no corrections are available, raw data can be easily logged for post-processing in the office.

Zenith10 & Zenith20 can also operate as a local reference station transmitting data either with the internal radio or an external high power transmitter.
FieldGenius software is bundled with all hardware configurations – making the best use of standard and high definition displays with large buttons and crisp graphics.

Nautiz X7 by Handheld exemplifies the evolution of handheld computers. Packed with innovative advancements in PDA technology, it surpasses everything else on the market with its mix of power, functionality and ruggedness.

The ultra-rugged Allegro MX Field PC by Juniper Systems is built to perform in the most demanding outdoor or industrial environments.

The Archer Field PC by Juniper Systems is rugged, powerful, and versatile to handle your most demanding needs. It meets IP67 and Mil-Std-810F standards for drop, vibration, immersion, humidity and operating temperatures.

For those seeking a larger screen and more powerful field computer, ruggedized tablets are the way to go. The Algiz 7 by Handheld sports a 7-inch screen running Windows 7, along with all the bells and whistles. If you would like to stick with the leaner Windows Mobile, the Mesa Rugged Notepad by Juniper Systems is the perfect solution.
**Trimble CX 3D Laser Scanner**

For contractors working on adaptive reuse or renovation construction projects, creating an accurate model of existing building conditions to understand the current structure and spatial utilization of a building is critical. The Trimble® CX 3D laser scanner is an advanced 3D laser measurement instrument designed to help building contractors solve this very problem.

**Applications:**

- Capturing existing condition data for accurate adaptive reuse and renovation construction planning and design
- Comparing the existing structure against the planned design to identify “clashes” prior to construction
- Verify the “flatness” of the existing floors to determine if improvements are needed before reuse construction or renovation begins
- Ensuring pre-fabricated parts will fit in their intended location prior to transportation and installation on the project
- Creating as-built construction drawings for quality assurance purposes
- Create a 3D model of the complete facility for daily operation planning and analysis by building owners

**Key Features:**

- WAVEPULSE™ technology that maintains high accuracy over operating range
- Data capture 54,000 points per second
- Data integration with Trimble Access for Spatial Imaging on Trimble Tablet
- Large 360° x 300° field of view
- Autonomous Operation Mode for repetitive scan situations
- Trimble Access writes Trimble RealWorks project files in the field to eliminate the need for data conversions in the office

**A Total Solution**

With the intuitive, streamlined Trimble Access™ software running on the Trimble Tablet Rugged PC, capturing data with the Trimble CX 3D laser scanner is fast and easy to learn. Data can then be seamlessly transferred from Trimble Access to Trimble RealWorks® survey software. Once in Trimble RealWorks contractors can easily manipulate the point cloud and export data to the detailing package of choice.

**Trimble RealWorks Software**

Trimble RealWorks software is an integrated software suite for surveyors and engineers that takes advantage of the rich point cloud data sets provided by the Trimble FX and Trimble CX 3D scanners and the Trimble VX Spatial Station.

Trimble RealWorks is full-featured software that enables you to visualize, explore, register and manipulate an as-built scene of point cloud data. It incorporates a set of useful tools and empowering functions that are particularly suited to civil survey, building, heritage, forensic, plant and other applications. It also allows surveyors and engineers to produce compelling 2D and 3D deliverables for direct output or export to AutoCAD® and MicroStation®.
Robotic Total Stations

GeoMax Total Station

Zoom80 Series
The Zoom80 contains many leading edge technologies that improve your efficiency. With long range accXess10 reflectorless EDM or the Zoom80C remote control, you minimize the time to complete any type of survey task.

NavLight
The NavLight fitted as standard in the telescope, is a practical alignment aid for speeding up staking-out work. The flashing red and yellow lights guide the rodman quickly and exactly into the line of sight.

accXess™ EDM Technology
GeoMax’s accXess EDM Technology provides class-leading reflectorless measurements up to 1,000 m. The extra small laser footprint and sophisticated signal processing technology, ensures you maximum accuracy regardless of the distance or conditions.

Laser Plummets
The laser plummet built into the Zoom80 total station delivers you accurate and easy centering every time. The bright laser beam is easily visible and eliminates time consuming procedures required with an optical plummet. You win at every set-up.
**Zoom80C Controller**
When operating by remote control, the functionality of the Zoom80 total station is even further enhanced. The controller provides one-man robotic surveying with complete control of all measurement tasks from the survey pole.

The display and software are the same as those on the total station. Therefore the Zoom80C controller lets you measure remotely as easy as directly on the instrument.

The controller, battery, radio modem and antenna form a single compact unit that can be conveniently attached to the survey pole. Together with a standard passive prism, provides a light-weight pole setup.

**Xsite Onboard Software**
The Zoom80 total station and Zoom80C controller are supplied with the powerful Xsite software. Data can be imported and exported in virtually any format to match your other software and equipment. The data can also be processed and adjusted using GeoMax Office software (GGO).

The same Xsite software runs on both the total station and controller. Therefore you can easily switch between using the instrument directly or by remote control, without needing to learn an additional software.
SHORING/CAGES

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Steel Boxes

Steel Trench Boxes
Efficiency Production manufactures a wide variety of steel trench boxes for use by small municipalities using rubber-tire backhoes and the largest underground contractors using large track excavators. Available models feature single or double wall construction in various wall thicknesses to accommodate the working depths required.

Stack sections can be added for deeper jobs.

MVS has an extensive rental fleet and non-stocked new orders can be delivered quickly. Certification available for all provinces.

Aluminum Build-A-Box

Aluminum Build-A-Box
The Build-A-Box™ modular aluminum trench shield system can be assembled in minutes to a wide variety of 2, 3, or 4-sided configurations. This flexibility enables work crews to make on-the-spot design changes to meet job requirements in conditions ranging from light to extreme. Most systems are easily transported in a pick-up truck for quick application.

The Build-A-Box™ is also compatible with the XLAP™ fixed-wall aluminum trenchbox, allowing panels to be stacked on an XLAP box for deeper excavations.

MVS has an extensive rental fleet and non-stocked new orders can be delivered quickly. Certification available for all provinces.

TIP
Soils are classified as A, B, C-60 & C-80 depending on their composition, amount of moisture, and the resulting pounds per square foot of pressure (PSF) that would be exerted on an installed trench box. This is the main factor in determining the size of trenchbox that can be used safely for any excavation, and the size must comply with the manufacturer’s engineered certification for that soil type.

Call 1-877-244-5434 or visit www.mvs.ca
Hydraulic Shoring

Vertical Hydraulic Shores
Where Trench Shields are used to protect workers against cave-ins, hydraulic shores are used to actually apply pressure to trench walls to prevent cave-ins.

Vertical hydraulic shores are an excellent lightweight resource for working around existing utilities, supporting trench walls near structures, curbs, or sidewalks, and for pipe installations where a larger backhoe can’t be used. Most shores can be safely and easily installed and removed from the surface, thus avoiding the risk of working in an unshored trench. Shores offer superior versatility in trenches up to 25’ deep and 12’ wide. A cylinder extension system adds to the shore’s range which improves on-site adaptability when encountering excavations of varying widths.

These high strength aluminum shores are available in standard or heavy-duty models and can be used to meet OH&S regulations in A, B, or C soils. FinForm sheets are used with shores to prevent sloughing of trench walls.

MVS has an extensive rental fleet and non-stocked new orders can be delivered quickly. Certification available for all provinces.

Air Shores

Pneumatic Shoring Struts
ProShore pneumatic shoring struts are designed and engineered to be one of the safest and most versatile means of shoring an excavation. Made with high tensile strength aluminum alloy the strut is lightweight and strong, yet able to withstand the toughest job site conditions. ProShore struts are used in conjunction with our multi shoring panels or with contractor supplied plywood and 2” x 10” plank uprights.

ProShore manufactures standard and swivel end struts to adapt to any trench wall. The standard series has a fixed end for use with near vertical walled trenches. The swivel series has pivoting ends which rotate 15 degrees in any direction to accommodate sloped or less than uniform trenches. When the ProShore strut has been pressurized and the positive locking pin is set there is no need to keep the air assembly connected. The strut is now fixed mechanically, maintaining pressure against the trench walls. ProShore struts use Co2 or compressed air which makes it environmentally safe. There is no chance of messy fluid leaks or freezing in colder climates.

Advantages:
- Lightweight aluminum alloy construction
- Versatile – adapts to all trench types
- Positive locking – no chance of creep back due to loss of pressure
- Environmentally safe – no messy fluids
- 7 sizes ranging from 18” to 144”
- Professional engineer certified
Efficiency Production’s Slide Rail

Efficiency Production’s Slide Rail is a component system comprised of steel panels and posts. It is commonly used as a cost-effective alternative to traditional driven close-sheeting.

The universal system can be used in a variety of configurations to meet any shoring challenge, particularly in poor soil conditions or near adjacent structures.

Efficiency’s Slide Rail can be custom-engineered to shore:
• Large and small vault installations, pump stations, lift stations and wet-wells
• Large tanks, footings, foundations and press pits inside buildings
• Long pipe joints, parallel water mains and boring operations

Slide Rail is installed simultaneously as the trench or pit is excavated by sliding the panels into rails on the posts, and then pushing the panels and posts incrementally down to grade as the pit is dug; a process commonly referred to as a “dig and push” system.

Slide Rail posts have either a double or triple rail which telescope panels to required depth. Individual Slide Rail components offer the option of using lighter equipment when installing the system.

The cost of rental and installation of the system is approximately 50 percent of steel sheeting. Certification available for all provinces.

Pipe Pullers

Efficiency Production’s Pipe Puller

Efficiency Production’s Pipe Puller is a useful tool for joining large pipe joints and box culverts together. It remains stationary in the first pipe joint that has been properly installed.

The cables are extended and hooked to the end of the second pipe. A heavy-duty winch firmly draws the sections together minimizing grouting and pipe breakage.
Porta-Tank™
Efficiency Production’s Porta-Tank™ is a self-contained water storage and power spray system that fits easily into the bed of a dump truck, flat bed truck, or trailer. The Porta-Tank™ eliminates the high cost of a single-purpose water tanker, and is available in 1,400 gallon to 5,000 gallon capacities with a variety of options in either Standard or Deluxe models.

Applications include: Street power washing, Flushing and testing utility lines, Water transport, Soil stabilization, Dust control, Landscape watering, Jetting well points, Sump pumping, Concrete sawing, Equipment cleaning

Features:
- Heavy steel plate construction with interior baffles provide solid structural support and minimize sudden weight shift
- Corrosion-resistant coating used on interior surfaces helps to prevent rust build-up
- Full length steel channel skids
- Top access hatch for visual inspection of tank
- Site gauge for quick reading of water level
- 3” x 20’ suction hose with quick connect coupling
- 3/4” hose connection
- Plumbing designed to permit gravity flow
- Pump and engine

Options:
- Choice of duck bill or fan spray nozzle
- Extended spray bar
- Front bumper mounted spray bar
- Anti-siphon fill pipe
- Quick-Dump valve
- Plumbing and hose reel
- Cab operated water control valve
- Electric start
- 2” quick connect coupling
- 2 x 5” PVC discharge hose

Stone Mizer
Efficiency’s Stone Mizer® Series offers wider and more durable bedding material containers than any competitor, and can accommodate oversized excavator buckets while withstanding the forces of larger excavators. Stone Mizers® are available in capacities ranging from 5 to 20 cu. yd. in four different series types: Standard, Heavy Duty, Extended Width Heavy Duty, and Extended Width Severe Duty. Custom built models are also available.

Efficiency’s Stone Mizer® substantially reduces bedding material loss by keeping it confined to the container. They allow operators to control bedding placement carefully, with a minimum of waste which saves contractors thousands of bottom line dollars each year by reducing the time that production crews wait for pipe bedding transfers, reducing the amount of wasted or spilled bedding, reducing restoration costs and saving more time for pipe production.

Standard Series Features:
- 1/4” plate on sides and ends, 1/2” plate on bottom
- Lift Bar included. 24” clearance between lift bar and Stone Mizer®

Extended Width Heavy Duty Series Features
- 3/8” plate on sides, 1/2” plate on ends and bottom
- Lift Bar included
- Substantially wider than standard series
- Better accommodates excavators with oversized buckets

Heavy Duty Series Features:
- 3/8” plate on sides, 1/2” plate on ends and bottom
- Lift Bar included. 24” clearance between lift bar and Stone Mizer®
- Recommended for 90,000+ lb. excavators

Extended Width Severe Duty Series Features
- Engineered to be used with larger excavators of 140,000+ lbs
- 1/2” plate on sides, 3/4” plate on ends and bottom.
- Lift Bar included
SnowBucket™

Efficiency Production, Inc. introduces a new tool for fast, efficient snow removal and higher equipment utilization. The SnowBucket™ incorporates an innovative design that greatly increases your snow removal production and reduces your cycle time with a single continuous dumping motion. High sidewall plates allow for a larger volume of snow removed in each pass compared to conventional plow blades.

A heavy-duty rubber cutting edge minimizes road surface damage while maintaining excellent surface contact. Angled steel wear shoes accommodate surface obstructions which could damage your machine. Reinforced structural steel construction guarantees durability. The SnowBucket™ is designed to quickly connect to a wide variety of machines from small backhoe loaders and skid-steers to large front-end loaders. Optional folding side plates with heavy-duty hinges allow for easier travel and convenient storage. The Snowbucket™ is available in sizes ranging from 6-20’ in width.

Features:
- High sidewall plates
- Rubber cutting edge
- Quik-Connect attachment
- Sizes ranging from 6-20’

Options:
- Optional folding side plates
- Hydraulic kit

Steel Road Plates

Our steel road plates are available for sale or rental. They are constructed of high-strength A-36 grade steel. New plates can be ordered with a flush-mount picking plate that provides one central lifting location that is perfectly balanced.

Standard sizes are 5’ x 10’, 5’ x 12’, 8’ x 12’ and 8’ x 16’.
Measuring Devices

Measuring Tapes

Nylon Clad Steel Tapes
An indispensable measuring tool designed for the precision-minded user. Open reels feature new rubber reinforced, rounded design, large soft rubber grip handle, and new color combos. 1/2" tape width.

- Superior accuracy, durability, and temperature stability over other tapes
- NEW reels designed specially for impact resistance and ease of use
- Accurate, wear-resistant graduations
- Flexible high tempered steel tape core
- Nylon coating withstands extreme temperatures, water, chemicals
- Crank handle folds flat to prevent breakage

Measuring Wheels

ROTO-SURE Measuring Wheels
Common uses for the ROTO-SURE Measuring Wheels are:

- Road Marking, Construction, Paving, Fencing, Pool Building, General Construction, Garden Layouts, Sports Fields, Factory Layouts, Property Assessment, Traffic Control, Insurance Assessments and many more to numerous to mention
- Mainly used on uneven surfaces over long distances

Electronic Carpenter’s Levels

TECH Electronic Levels
Features:

- With audible tone, level tells you plumb, level or any angle in-between
- Display flips over when level is used upside-down
- Easy one-button calibration/ Re-calibrate in less than 7 seconds
- Soft, protective case included
- 2 year warranty on Electronic module, lifetime guarantee on vials

- Level reads in 5 different languages:
  1. Degrees
  2. Percentage
  3. mm/M- Millimeters per Meter
  4. in/ft- Decimal inches per foot
  5. in/ft- Fractional inches per foot

Call 1-877-244-5434 or visit www.mvs.ca
Laser Distance Meters

Leica DISTO™ D8
The most versatile laser distance meter in the world!
Equipped with a digital Pointfinder, high-resolution 2.4" colour display, 360° tilt sensor and Bluetooth® technology, the Leica DISTO™ D8 is a real world first and offers completely new measuring options.
- Measuring range of 0.05 m / 0.16 ft up to 200 m / 650 ft; typ. accuracy ± 1.0 mm / ± 0.04 in
- BLUETOOTH® and Leica DISTO™ Transfer Software: Easy transfer for further processing in Excel®, Word®, AutoCAD® or other Windows-based programs
- AutoCAD® plug-in: Convenient drawing using your AutoCAD® software
- 360° tilt sensor: Measure any slope, even overhead
- Digital Pointfinder with 4x zoom and high resolution colour display
- Indirect measurement functions with tilt sensor: Determine distances to objects that cannot be measured directly because they lack reflective points
- Height profile measurements: Determine spot heights and ground profiles

Leica DISTO™ A8
NEW - With digital viewfinder and tilt sensor – simply perfect!
The digital viewfinder and the integrated tilt sensor make the Leica DISTO™ A8 an innovation worldwide and open up completely new possibilities. Comfortably find your target with the three-fold digital zoom made even easier with the blended in crosshairs. The brightness of the greyscales display can be manually adjusted; ideal for poorly contrasting targets! The tilt sensor not only indicates angles, but also real horizontal distances and various indirect height measurements.

Leica DISTO™ A5
Optimum functionality - with ergonomic design.
The Leica DISTO™ A5 stands out thanks to both its ergonomic design and the soft rubber grip that allows it to sit well in the hand. With its unique end piece, wide range of additional functions and integrated view finder, the Leica DISTO™ A5 is fully equipped to tackle any measuring task. The most common calculating functions are quickly and easily accessed via the corresponding shortcut keys.
Indoors or outdoors – The Leica DISTO™ A5 is your ever-reliable partner.

Leica DISTO™ A2
Precise measurements - fast and easy - fits into every pocket.
The compact and handy base model was specifically designed for indoor applications. Shortcut keys for addition, subtraction, area and volume calculation make measuring fast and very reliable. As with all Leica laser distance meters, the laser dot is clearly visible. You can always see your targeting point even if the target object is in a hard to access area.
- Measuring range of 0.05 til 60m, typ. accuracy ± 1.5mm
- Precise, fast and reliable indoor measurements
- Handy size: Fits any pocket
- Direct keys: Easy to use
- Ergonomic: The instrument is easy to hold, all keys are ergonomically arranged
- Stake-out function: Stakes out equal (constant) distances
- The display shows the preset distance and its multiples. A beep is sounded whenever such a distance point is reached
Spectra Precision HD100 Handheld Distance Meter

The advanced Spectra Precision® HD100 Laser Distance Meter is designed to give contractors a one-person distance measuring and estimating tool to measure remote and difficult-to-reach places. The multi-functional instrument ensures simple, quick, and reliable measurements. A visible laser dot lets you safely measure hard-to-reach places or hazardous conditions, such as high overheads, factory interiors, or over water. A built-in tilt sensor quickly and simply determines tilts up to ± 45° and prevents errors in measuring when the distance meter is not held level. This eliminates the need to constantly check a level vial. The HD100 also calculates areas, volumes, room dimensions, and various types of Pythagorean functions.

Features and Benefits:
- One-person distance measuring with 1/16” (1.5 mm) accuracy up to 330 ft. (100 m) allows safe measuring to difficult-to-reach or hazardous locations
- Calculates areas, volumes, room dimensions, and various types of Pythagorean functions
- Built-in tilt sensor quickly and simply determines vertical angles up to ± 45°
- Stake out function for quick define / stake out distances
- Timer function increases stability when taking measurements
- Display is illuminated automatically for easy measurements in dark lighting conditions
- Multifunctional end piece allows measuring out of corners, slots or from edges. The instrument detects the end piece automatically, which helps avoid expensive measuring errors
- Waterproof to IP54 for use under all conditions.
- System contains a rugged pouch, wrist strap, target plates, and user guide

Applications
- Measuring distance, area and volumes
- Checking building square and area
- Measuring for material estimation
- Checking slope and sloped distances

Optical Instruments

Hand/Eye Levels

Kuker-Ranken Hand Levels

Kuker-Ranken Hand Levels are hand-finished for smooth and accurate operation with etched glass prisms and precision ground lenses.

There are no exposed screws to cause adjustment failure. When taken apart for cleaning, they can be completely assembled and adjusted in the field. The interiors are non-glare.

All hand levels include a leather carrying case with belt loop and snap flap, parts list and instructions.

- Lifetime Warranty: Kuker-Ranken Hand Levels are fully warranted against defects in workmanship and materials for the life of the instrument
NIKON AC-2S
The AC-2S, an economical, compact and lightweight telescope ideal for use in construction work
The economical, compact and lightweight AC-2S features a built-in compensator with magnetic damper that automatically levels line of sight. With an endless horizontal tangent screw, it is operable with either hand and employs a friction brake for faster operation. Moreover, it can be mounted on flat- or spherical-head tripod.

- Attainable accuracy in 1km double-run leveling of ±2.0mm
- 24x, ø30mm-dia. telescope for bright, erect and sharp images
- 0.75m/2.5ft. minimum focusing distance
- Also available 28x-32x

NorthWest NCL Series Contractors Automatic Level
For contractors who demand professional performance, NCL series are the right choice. They are all equipped with high performance magnetic dampened compensators. NCL series are built to sustain the rough environment at any job site, they are ideal for leveling and grading applications on jobs like foundations, driveways, pools, pipe laying and general landscape.

NCL Series auto levels come in 22x, 26x, and 32x. They are also available in packages which include: NCL automatic level, NAT83 tripod and NAR09E Rod.

NorthWest NEL Series Contractors Automatic Level
For contractors, engineers and all professionals who demand speed, accuracy and durability, NEL series automatic level are ideal for all leveling and grading applications such as establishing foundations, flooring or determining grades for land and roadway. Built with state of art design and technology, they are made to withstand rough handling, rain, dust, humidity and variation of temperature.

NEL series automatic levels come in 26x, 28x and 32x. They are also available in packages, which include NEL automatic level, NAT83 tripod and NAR09E rod.

Spectra Precision® Optical AL220/AL224/AL228 & AL232 Auto Levels
Featuring metal housings and high-quality optics, the Trimble AL220 and AL224 Auto Levels are built to last. These optical levels are the ideal tools for daily leveling work. The Trimble AL220 offers 20X magnification and 0.1 in (2.5 mm) accuracy; the Trimble AL224 offers 24X magnification and 0.08” (2.0 mm) accuracy. The AL228 offers 28X magnification and 1.5mm accuracy; the AL232 offers 32X magnification and 1.0mm accuracy.

- Air dampened compensator provides superior accuracy and stability
- Plastic/rubber controls allows easier control in wet or cold conditions
- Built-in angle circle enables basic short-range alignments
- Built-in bubble mirror makes the level easy to see regardless of auto-level position
- Auto level kits available so you can choose the option to best suit your application
Digital Theodolites

Spectra Precision DET-2 Construction Theodolite
Full featured digital theodolite for construction.

Applications:
- Establishing 90 degree reference lines
- Checking angles, alignment, and plumb
- Anchor bolt alignment
- Gravity flow pipe laser setup
- Steel column placement
- Alignment of forms, tilt-up walls, and curtain walls
- Basic grade work
- Short range leveling

NETH503 Digital Theodolite
Neth503 is a digital Theodolite capable of precisely measuring angles in horizontal and vertical planes. It integrates the same advanced glass encoder from our total stations. It offers 5” angular accuracy, dual back-lit LCD screens for easy readouts, and a full array of parameter settings for versatile usage.

NIKON NE-100
• Accurate, affordable and easy-to-use
• Ergonomic keypad
• One-touch function keys
• Large, backlit LCD display
• NE-100/101 models are water-resistant
• NE-102/103 models are waterproof
• 5”, 7” and 10” accuracies available

TIP
When your laser’s not being used for an extended period of time, such as during the winter, it’s a good idea to charge the internal rechargeable batteries once a month.
Layout Solutions

Robotic Total Stations

Easy to Learn and Use

Easy-to-follow user interface shortens the learning curve and speeds up operation. With minimal training, you’ll find you don’t need to be a surveyor to use these total stations.

One-Person Operation

Handle all layout tasks with only one person. Regardless of the complexity, your layout will be quick and accurate.

Maximum Flexibility and Cost Savings

Application programs let you set up anywhere faster and perform all job site layout and measurement tasks yourself. You’ll reduce your need for outsourcing and lower your costs.

Trimble Robotic Total Stations

The Trimble Robotic Total Stations connects to the LM80 to provide continuous measurement information for the accurate layout of your design data.

On the jobsite, you can set up the total station in a convenient, visible location and perform positioning up to 700 meters away with the prism pole. In addition, to reach dangerous or difficult locations, you can use the reflectorless distance measurement capability to measure positions up to 800 meters away. A true one-person solution, which dramatically increases productivity over traditional layout methods!

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<td>Total Station Type</td>
<td>Robotic</td>
<td>Robotic</td>
<td>Robotic</td>
</tr>
<tr>
<td>One Person Layout</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Robotic Communication Link</td>
<td>2.4 GHz Radio</td>
<td>2.4 GHz Radio</td>
<td>WLAN</td>
</tr>
<tr>
<td>Robotic Radio Communication Range</td>
<td>500 - 700 m (1,640 - 2,297 ft)</td>
<td>500 - 700 m (1,640 - 2,297 ft)</td>
<td>200 m (657 ft)</td>
</tr>
<tr>
<td>Measuring Range (Single Prism)</td>
<td>2,500 m (8,202 ft)</td>
<td>3,000 m (9,800 ft)</td>
<td>3,000 m (9,800 ft)</td>
</tr>
<tr>
<td>Distance Measurement Accuracy (Prism Mode)</td>
<td>± 2 mm + 2 ppm (0.01 ft + 2 ppm)</td>
<td>± 2 mm + 2 ppm (0.01 ft + 2 ppm)</td>
<td>± 2 mm + 2 ppm (0.01 ft + 2 ppm)</td>
</tr>
<tr>
<td>Reflectorless DR Measuring</td>
<td>Yes- 120 m</td>
<td>Yes- 250 m</td>
<td>Yes- 250 m</td>
</tr>
<tr>
<td>Angle Accuracy</td>
<td>Horizontal: 3” (1.0 mgon) Vertical: 2” (0.6 mgon)</td>
<td>Horizontal: 5” (1.5 mgon) Vertical: 5” (1.5 mgon)</td>
<td>Horizontal: 5” (1.5 mgon) Vertical: 5” (1.5 mgon)</td>
</tr>
<tr>
<td>Compensation</td>
<td>Dual-Axis</td>
<td>Dual-Axis</td>
<td>Dual-Axis</td>
</tr>
<tr>
<td>Display</td>
<td>Trimble Field Link</td>
<td>LM80/Trimble Field Link</td>
<td>LM80/Trimble Field Link</td>
</tr>
<tr>
<td>Data Storage</td>
<td>Via Trimble Field Link</td>
<td>Via Trimble MEP/LM80/Trimble Field Link</td>
<td>Via Trimble MEP/LM80/Trimble Field Link</td>
</tr>
<tr>
<td>Battery Life</td>
<td>Approx. 6 hours</td>
<td>Approx. 6 hours</td>
<td>Approx. 6 hours</td>
</tr>
</tbody>
</table>
Trimble RTS773 Robotic Total Station

The RTS773 includes Trimble VISION, an integrated camera in the robotic total station that provides a “through the telescope view” remotely via the Trimble Tablet and Trimble Field Link.

This robotic total station is designed for general and specialty contractors that require quality, accuracy and optimum field performance.

Features:
The RTS773 robotic total station includes Trimble VISION and is the only Building Construction instrument to provide this technology. Trimble VISION replaces the tracklight on the RTS unit with an integrated digital camera that can be operated remotely via the Trimble Tablet.

Through the tablet interface, users have the ability to view and document the actual jobsite condition from the perspective of the total station when performing layout, collecting data or generating field reports.
**Trimble® TS835 Total Station with LM80 Onboard**

As today’s building designs become increasingly complex, the Trimble® TS835 delivers the accuracy necessary for the layout of foundations, forms and footers. Contractors can use digital data for layout to reduce mistakes, check the accuracy of points that have been set out, and increase productivity.

The Trimble® TS835 provides a strong return on investment for a broad range of contractors and trades on the industrial, commercial and residential construction jobsite.

**Features of the TS835 mechanical total stations from Trimble include:**

- The mechanical total stations feature a compact, lightweight, and rugged hardware platform offering 5-second accuracy
- Fast, long-range EDM with precision optics is a feature of the mechanical stations
- It can be used with a prism or in reflectorless mode for single-person operation
- Windows CE touch-screen device and Trimble LM80 Layout Manager software are added directly onboard the mechanical total stations
- Trimble LM80 software on the TS835 enables contractors to carry, manage, work with, and lay out jobsite blueprints for fast and accurate building foundation layout
- The mechanical total stations provide a graphical interface that makes viewing and referencing jobs and analyzing data fast and easy
- The LM80 software can handle a wide variety of data formats, plus create points in the field directly from a DXF file
- Job files and DXF data are easily transferred between the TS835 instrument and a PC

**Trimble® TS635 Total Station**

The Trimble® TS635 is a high-featured total station at a mid level price point, designed specifically to meet the needs of contractors performing layout on the building construction job site.

The TS635 features intuitive on-board construction specific layout software, a compact design, endless tangent screws, a full alphanumeric key pad and long range reflectorless distance (DR) measurement capabilities to deliver a high quality and high performance mechanical total station.

**Trimble® TS215 Total Station**

The new Trimble® TS215 Total Station is a part of the Trimble portfolio of total stations designed specifically for the construction contractor. The total station’s digital transit-like keypad, makes it easy-to-learn and use for non-technical employees on the building construction jobsite.

The TS215 is ideal for individuals familiar with using a theodolite and offers a familiar interface with additional capabilities such as measuring distance at a comparable price point.
Trimble Layout Solutions: Taking the Design to the Jobsite

Trimble Building Construction Positioning Solutions give contractors more control of their job sites...delivering significant improvements in construction accuracy and productivity. By connecting your office and job site through wireless data transfer, design updates can flow between field and office in real time. Jobs can be created and maintained by someone in the main office and emailed to various sites. Daily layout progress can be monitored. Every question can be answered instantly. Every decision is an informed one. The bottom line is greater control, cost savings and maximized productivity.

Concrete Forms and Anchor Bolts
Lay out complex concrete forms or anchor bolts from any location by referencing any two known points.

Control Points and Offset Hubs
Lay out control points and offset hubs faster and more cost-effectively. Work on your schedule.

Excavation Lines
Lay out all lines from one reference location with no string lines, transits or theodolites.

Checking Property Boundaries
Use the LM80 to make minor adjustments to the building position as needed without waiting or paying subcontractor fees.

As-Built Checks
Check the work of others and create documentation for change orders when necessary. Direct Reflex capabilities make as-built checks a one-person job.

Set Control Lines
Lay out control lines for subcontractors faster and more accurately than with tapes and theodolites.

Topographical Measurements
Easily collect topographical data and import it into third-party software for elevation and cut and fill analysis.
Trimble Field Link for Structures

Key Features:
- Expandable detail pane for improved point information during layout
- Task based layout routines with user defined point lists
- 3D Model viewer to visualize models in the field and more accurately build to design
- Field reports to quickly and accurately report field issues and conflicts to ensure timely resolution
- Daily Layout Summary for accurate layout productivity metrics

With the increasing needs of contractors implementing Virtual Design & Construction (VDC) and Building Information Modeling (BIM) construction processes, Trimble Field Link for Structures takes construction layout and field tasks to the next level.

Layout
Trimble Field Link for Structures allows a task-based workflow to easily manage layout tasks. A list of points to be laid out is created, eliminating the need for field crews to “skip” points that do not need to be laid out. The Layout Point List can be populated using common descriptions, layers, or selecting points from a list or map.

Since field layout personnel have different visualization preferences and not all jobs dictate seeing the same level of detail, Trimble Field Link for Structures incorporates customizable views in layout, allowing users to create the most functional interface for their particular usage.

Users can choose between maximizing the map view and a condensed view of the layout point list details or viewing maximum details. Users can also toggle between the typical map view during layout and a new enhanced bulls-eye view.

Reporting
Trimble Field Link for Structures includes enhanced reporting to assist contractors with understanding what is going on in the field. The Layout Deviations and Daily Layout Summary allow contractors to quickly measure their layout productivity and accuracy.

In addition, users can document daily field activities and existing site conditions for RFI communications using the included Field Report. Field Reports allow users to include detailed text, digital photos, and measurement coordinates to clearly communicate issues and conflicts in the field.

Model Viewer
Trimble Field Link for Structures extends the VDC and BIM workflow processes to the jobsite by incorporating a 3D model viewer that enables field personnel to view 3D design models (DWG or DXF format).

This capability allows field crew to more clearly visualize the design intent and make timely and accurate decisions when issues arise. Simple navigation controls make viewing 3D models simple, even for novice users.
Spectra Precision® GL700 Series

The right laser for the right job

The GL700 Series offers the most innovative collection of features ever available – long range remote control, PlaneLok, grade matching and automatic axis alignment – to let you get to grade faster and with more accuracy.

On-site, you’ll find that the advanced features quickly translate into productivity and accuracy. Complex alignments are automatic and virtually foolproof. With the powerful, long-range remote control option, it takes only one person to accurately set up and operate the grade laser.

Even grade reverse is done in an instant. For the first time, you can automatically control all transmitter functions from inside the cab of the machine.

The GL700 Series from Trimble has four robust models, so you can select the right laser for the right application – GL710 Single Grade, GL720 Dual Grade, GL722 Dual Grade with Radio Remote Control and GL742 Steep Slope.

GL710 Single Grade

An easy-to-learn, easy-to-use one-person grade laser, economical and accurate up to a 900 m (3,000 ft) diameter. Ideal for general construction, site preparation, trenching and pipe laying applications.

GL720 Dual Grade

This economical choice has +/- 10% in the X-axis grade range and -0.5 to +25% Y-axis grade range with high accuracy up to 900 m (3,000 ft) diameter. Ideal for general construction and machine control grade applications.

GL722 Dual Grade

With Long-range Radio Remote and with the same range and base capabilities as the GL720, the GL722 includes the benefits of the full Radio Remote functions… plus Automatic Axis Alignment capability. Ideal for general construction, site preparation and road construction.

GL742 Steep Grade Laser (to 110%)

The GL742 includes all the features of the GL722 – including full Radio Remote – with the increased capability of achieving a steep grade range of 110%. Ideal for all general construction and machine control applications, as well as steep slope applications, such as highway embankments, seawalls and landfills.
Leica Rugby 260SG
A highly accurate, general construction laser with single grade capability.
The Rugby 260SG is a rugged general construction laser with great accuracy, LCD Grade readout and semi-automatic grade with bump alert.

Leica Rugby 270SG
A fully automatic, single grade laser.
The Rugby 270SG is a fully automatic, single grade laser for the general construction contractor that needs a level or single slope for flat work, site preparation, septic installation, trenching and more.

Leica Rugby 280DG
Multipurpose Plus - A horizontal, vertical and dual grade laser for any exterior or interior application.
“The Rugby 280DG is a multipurpose laser ‘Plus’ with fully automatic, dual grade” capability. It has a bright red beam, plumb beam, scan mode, horizontal and vertical self-leveling, plus dual grade up to 15% in both axes. Available with a two-way remote control, the Rugby 280DG fits well in any construction plan.

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<table>
<thead>
<tr>
<th>Rugby Features</th>
<th>Rugby 260SG</th>
<th>Rugby 270SG</th>
<th>Rugby 280DG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Radius</td>
<td>1,000 ft (300 m)*</td>
<td>1,150 ft (350 m)*</td>
<td>1,150 ft (350 m)*</td>
</tr>
<tr>
<td>Grade Capability</td>
<td>Single axis ± 10%</td>
<td>Single axis ± 15%</td>
<td>Dual axis ± 15%</td>
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<tr>
<td>Rotating Speeds</td>
<td>10</td>
<td>5, 10</td>
<td>0, 2, 5, 10</td>
</tr>
<tr>
<td>Scanning Modes</td>
<td>-</td>
<td>-</td>
<td>10, 45, 90°</td>
</tr>
<tr>
<td>RF Remote Control</td>
<td>-</td>
<td>-</td>
<td>330 ft (100 m)</td>
</tr>
<tr>
<td>Self-Leveling Accuracy</td>
<td>“1/16” per 100 ft (1.5 mm per 30 m)***</td>
<td>“1/8” per 100 ft (3.0 mm per 30 m)” ± 5°</td>
<td>635 nm</td>
</tr>
<tr>
<td>Grade Accuracy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Leveling Radius</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laser Diode</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size (H x W x D)</td>
<td>7.8 x 9.8 x 6.9 in (197 x 248 x 175 mm)</td>
<td>6.5 lb (2.95 kg) with batteries</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>-5°F to +122°F (-20°C to +50°C)</td>
<td>Alkaline or rechargeable NiMH</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Battery Type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Battery Life</td>
<td>70 hours alkaline, 40 hours rechargeable***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warranty</td>
<td>Two year with knockdown warranty/additional three years on request****</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Operating range is receiver dependent ** Accuracy is defined at 25°C *** Battery life is dependent on environmental conditions **** For terms and conditions please refer to your sales representative
Leica - Rugby Lasers

Choose the right grade laser that is right for your job and budget. The following is just a few of the many jobs you can complete more quickly:

- Concrete forming, pad replacement and framework
- Setting foundations and footings
- Precise depth control for sub-base and fine grade excavation
- Finish grade and sub-grade

### Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Leica Rugby 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Range</td>
<td>1000 ft (300 m) diameter</td>
</tr>
<tr>
<td>Accuracy</td>
<td>± 1/16” at 100 feet / ± 1/5 mm</td>
</tr>
<tr>
<td>Self Leveling Range</td>
<td>± 5°</td>
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<tr>
<td>Manual Grade</td>
<td>Up to 10%</td>
</tr>
<tr>
<td>Height</td>
<td>7.8” (197 mm)</td>
</tr>
<tr>
<td>Width</td>
<td>9.8” (248 mm)</td>
</tr>
<tr>
<td>Depth</td>
<td>6.9” (175 mm)</td>
</tr>
<tr>
<td>Rotation Speeds</td>
<td>5, 10 rps</td>
</tr>
<tr>
<td>Laser Diode</td>
<td>635 nm visible</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-4° to 122°F (-20° to 50°C)</td>
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<tr>
<td>Battery Life</td>
<td>60 hours with alkaline batteries, 35 hours with rechargeable batteries**</td>
</tr>
<tr>
<td>Water Resistance</td>
<td>Water-tight to IP66 standard</td>
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</table>

* Increase accuracy beginning serial number 100-61500.
  From 23°F to 95°F / 5°C to 35°C. Accuracy is derated outside this range.
** Battery life dependent upon environmental conditions.

The Leica Rod Eye Family of Receivers

- Leica Rod Eye Digital
- Leica Rod Eye Plus
- Leica Rod Eye Basic
Spectra Precision® GL512 & GL522
New wireless communication between the HL750 Laserometer and the transmitter provides automatic Grade Matching and PlaneLok. Grade Matching allows you to measure the unknown grade value between two points. Simply set your receiver at the same height as the transmitter, then go to your remote point, press a button on the wireless remote and the transmitter automatically matches and displays the grade. There is no need to return to the laser transmitter.

Spectra Precision® GL412 & GL422
• Fast, easy horizontal level, grade and vertical plumb setup with no manual leveling
• Quick payback due to easy setups with the 2-way radio remote control, and single and dual grade application capability
• No rework due to automatic temperature and grade compensation
• Very long operating range – 800m (2,600 ft) diameter (GL422 only) for increased machine control capability and fewer setups over the job site
• Very rugged with low service costs, takes a drop of up to 1 m (3 ft) onto concrete
• Mask mode eliminates interference with other crews on the job site
• Pointing mode allows ‘Over the Top’ pipe laying for house connections

Universal Lasers

Spectra Precision UL633 Construction Laser
Applications:
General Construction:
• Leveling concrete forms and footers
• Vertical alignment such as anchor bolt and form alignment
Machine Guidance Compatible:
• Dual slope grading and steep slope excavating
• Slope work for sports fields, tennis courts, driveways, parking garages, ramps

Pipe and Drainage Installations
• Automatic alignment for pipe laying
• Measuring unknown slopes in existing pipes

Interior
• Layout of walls
• Installation of drop ceilings

Laser Levels

Spectra Precision® LL400
Specifications:
• Laser Accuracy: ±1.5 mm at 30 m (±1/16 in at 100 ft)
• Operating Receiver Range (Diameter) w/ HL700 receiver: 800 m (2,600 ft)

Spectra Precision® LL500
Specifications:
• Self-Leveling Range: ± 11 arc min.
• Compensation Type: Wire Hung, Air Damped
• Accuracy: 1.5 mm at 30 m (1/16 in at 100 ft)
• Operating Diameter: 500m
Spectra Precision® LL300

Features & Benefits:
- Increases productivity with fast setups, fewer controls & auto self-leveling
- Maintains performance even in rainy, dusty and other harsh job site and weather conditions
- Durable design reduces downtime due to drops and tripod tipovers
- Minimizes power costs, increases reliability with choice of rechargeable or alkaline batteries
- Increases flexibility with remote control slope option
- Customizable to your needs with choice of two receivers

Spectra Precision® LL100

Features & Benefits:
- Complete leveling crew in a case - laser, tripod, receiver and clamp, choice of grade rod, alkaline batteries in a portable hard shelled carrying case
- Easy to transport, easy to carry, easy to store
- Automatic electronic self-leveling - turn it on and start working
- Simple one-button operation for quick start up
- Height of Instrument Alert - unit stops rotating when jarred to avoid erroneous readings
- Job site durable and tough - withstands a 3 ft (1 m) drop on concrete or a 5 ft (1.5 m) tip over without breakage
- Rugged design reduces downtime
- Single axis manual slope mode to match known references. Slopes can be set up to 100 ft (30 m) away with the optional RC601 remote control

Pipe Lasers

Spectra Precision® DG711 Pipe Laser

The rugged Spectra Precision® Laser DG711 is built tough for long lasting performance and reliability. The DG711 pipe laser is completely waterproof and designed to ensure easy cleanup. Setup is fast with a full range of mounting accessories available, and easy to use with straightforward, “no-instructions-required” controls. In addition, through the Service Alert feature, they keep track of their own maintenance needs, indicating at pre-set intervals when it’s time for a check-up.

TIP

Green beam lasers have proven to be 4 times brighter than red beam lasers for use in interior applications.
Spectra Precision® DG511 Pipe Laser

The Spectra Precision® Laser DG511 Pipe Laser is built tough for a long lasting performance and reliability. The DG511 pipe laser is completely waterproof and is designed to ensure easy cleanup. Setup is fast with a full range of mounting accessories available, and easy to use with straightforward, “no-instructions-required” controls. In addition, through the Service Alert feature, they keep track of their own maintenance needs, indicating at pre-set intervals when it’s time for a check-up. Featuring a very rugged design and a variety of unique technological capabilities, these Pipe Lasers stand up to corrosion from acids, chemicals, salts and other destructive underground elements as well as to the physical abuse typical in the construction industry.

Laser Receivers

Spectra Precision® HL700 Laserometer

A highly versatile laser receiver for basic and advanced leveling and aligning applications. Designed for general, concrete and site preparation contractors. The HL700 is an easy-to-use tool that accurately measures elevations across the site, and is ideal for use with any rotating transmitter.

Spectra Precision® HL450 Laserometer

HL450 Features Digital Readout of Elevation, Large 4 inch (10.2 cm) Sensing Range and Anti-Strobe Sensor

The Spectra Precision® LL300 Laser and HL450 Laserometer are now combined to offer unmatched performance and price. The HL450 features a digital readout of elevation that provides a numeric display of ±1.5 inches (±38 mm). The readout is displayed on the large front and rear LCD’s and shows exactly how far the elevation is from on-grade. Accurate measurements can be made without moving the rod clamp, saving time and increasing productivity.

The HL450 has a 4 inch (102 mm) reception height, double the typical industry standard, which allows quick acquisition of the laser beam.

Also included is a patented anti-strobe sensor that prevents construction lights from setting off the receiver and makes it easier to identify the laser beam signals.

Spectra Precision® Laser HR320 Receiver

Can be used as either a handheld or rod-mounted unit for basic leveling and alignment jobs. Exceptionally easy-to-use, it features a durable composite housing that is both lightweight and capable of withstanding a drop of up to 1/5 meters (5 feet) onto concrete.

Ideal for general exterior and interior applications (leveling concrete forms and footers, measuring cut and fill for small to medium site preparation and exterior/interior leveling, aligning and marking).
Spectra Precision® CR600

The Spectra Precision® Laser CR600 Receiver is ideal for contractors doing both site prep and general construction. The CR600 can be either rod or machine mounted, making it ideal for a wide range of applications.

Interior Lasers

Spectra Precision® HV301

Specifications:
- Laser accuracy: ±3/32 in at 100 ft (±2.2 mm at 30 m) (±15 arc seconds)
- Out-of-level warning: Rotor stops, laser shuts off, red out-of-level LED flashes
- Operating temperature: -20 °C to 50 °C (-4 °F to 120 °F)
- Storage temperature: -20 °C to 70 °C (-4 °F to 158 °F)
- Warranty: 2 years
- Water resistant: Yes, and IP54 sealing

Spectra Precision® HV301G

Features:
- High visibility green beam is four times more visible than standard red beam lasers allowing you to work longer distances and in brighter conditions
- Automatic self-leveling in horizontal and vertical applications assures accuracy and quick setups
- Temperature compensation for accurate use throughout the day
- Fast positioning over a point for plumb transfer
- Single axis manual slope mode to match known references

Spectra Precision 5.2 XL Point and Crossline Laser

Two Tools in One

Applications:
- Level, horizontal and vertical layout, square, and plumb
- Building, layout, and squaring of interior walls
- Acoustical ceiling installation
- Drywall track installation
- Cabinet and trim installation, finish carpentry
- General construction elevation control with HR220 receiver
- Exterior building decks, patios, columns, and posts
Spectra Precision 1/3XL  3-Plane Crossline Laser

Simple to use – perfect for interior construction.

Applications:
• Level, horizontal & vertical layout, square, & plumb
• Building, layout, & squaring of interior walls
• Acoustical ceiling & drywall track installation
• Cabinet & trim installation, finish carpentry
• General construction elevation control with HR220 receiver
• Reference points for sprinkler systems, HVAC, lighting
• Exterior building deck footings, patios, columns, & posts

Spectra Precision LP30, LP50 Laser Pointers

3-Beam and 5-Beam self-leveling pocket lasers

Applications:
• Level, horizontal and vertical layout, checking plumb
• Point transfer
• Checking square with LP50
• Layout of interior walls, drywall track installation
• Acoustical ceiling installation
• Drywall track installation
• Cabinet & trim installation, finish carpentry
• Short range leveling
• Reference points for sprinkler systems, HVAC, lighting

PLS 3 Tool (PLS-60523)

Point-to-point, self-leveling plumb and laser tool. Includes wall bracket, floor base, pouch, operating manual.

PLS 4 Tool (PLS-60574)

Combination laser line (180) tool with point-to-point plumb. Includes magnetic wall bracket, pouch, floor stand, operating manual, & carry case.
**PLS 5 Tool (PLS-60541)**
Point-to-point, self-leveling plumb, level and square laser alignment tool. Includes floor stand, pouch, magnetic bracket, pendulum layout target, carrying case & operating manual.

**PLS 180 Tool (PLS-60521)**
Laser line tool, self-leveling for plumb, level and square. Includes magnetic wall bracket, pouch, operating manual & carrying case.

**PLS 360 Tool (PLS-60526)**
Self-leveling 360 degree continuous horizontal layout. Includes ceiling bracket, carrying case & operating manual.

**PLS HVL 100 Tool (PLS-60560)**
Unique servo motor fully Automatic multi-line laser tool. Includes heavy duty wall bracket, layout targets, NIMH batteries with charger.
Lackmond Diamond Cutting Tools

Lackmond Products Background
For more than a decade, Lackmond has provided high quality professional tools for sawing, grinding, and drilling that meet the needs of today’s most demanding markets. The Lackmond product portfolio offers a full line of professional diamond tools and equipment including: saw blades, grinding wheels, drill bits, concrete saws, tile saws, core drill rigs, tungsten carbide wood and non-ferrous blades, and much more.

What to Know when Ordering Diamond Blades
To determine which product is right for your job, consider what is most important – the cost of the product or the end result of cost per inch foot of cut. A higher quality blade results in a lower cost per inch foot of cut, less down time on your equipment, and a lower replacement cost. For smaller jobs and occasional cutting, a lower initial cost blade may be preferred. For large jobs and continual usage, investing more up front will save you in the long run.

When ordering a diamond blade, consider the following factors:

- Material Type and Hardness
- Equipment
- Wet or Dry Cut
- Arbor Size (if other than 1”)
- Special Cutting Needs
- Size of Job

General Contractors
- Dry Cut High-Speed Hand Held Saws: Cured Concrete & Asphalt/ Green Concrete
- Low Horsepower Walk-Behind Blades: Cured Concrete & Asphalt/ Green Concrete
- Wet Cut High Horsepower Walk-Behind Blades: Cured Concrete & Asphalt/ Green Concrete
- Wet and Dry Cut Core Bits
- Dry Diamond Tile Bits (Hole Saws)
- Cup Wheels and Polishing Pads
- Cutting and Coring Equipment

Concrete Flatwork Contractors
- Dry Cut High-Speed Hand Held Saws: Cured Concrete & Asphalt/ Green Concrete
- Low Horsepower Walk-Behind Blades: Cured Concrete & Asphalt/ Green Concrete
- Wet Cut High Horsepower Walk-Behind Blades: Cured Concrete & Asphalt/ Green Concrete
- Wet Cut Core Bits
- Cup Wheels and Polishing Pads
- Cutting and Coring Equipment

Masonry Contractors
- Dry Cut Masonry Stationary Blades
- Dry Cut High-Speed Hand Held Blades: Cured Concrete & Asphalt/ Green Concrete
- Small Diameter Segmented and Turbo Blades
- Tuck Pointing Blades
- Cup Wheels

Waterproofing and Restoration Contractors
- 911 Blades
- Small Diameter Segmented and Turbo Blades
- Cup Wheels and Polishing Pads
- Tuck Pointing Blades
- Crack Chasing Blades
- Wet and Dry Cut Core Bits
Municipalities
- Dry Cut High-Speed Hand Held Blades: Cured Concrete & Asphalt/ Green Concrete
- Wet Cut High Horsepower Walk-Behind Blades: Cured Concrete & Asphalt/ Green Concrete
- Ductile Iron Blades • Wet Cut Core Bits

Tile Contractors
- Tiles Blades
- Dry Diamond Tile Bits (Hole Saws)
- Polishing Pads
- Profile Wheels

Hardscape Crews
- Dry Cut Masonry High-Speed Hand Held Blades
- Small Diameter Segmented and Turbo Blades
- Paver Products (Cleaners, Sealers and Polymeric Sand)

Heating, Ventilation and Air Conditioning Contractors
- Small Diameter Segmented and Turbo Blades
- Dry Cut Core Bits

Electrical Contractors
- Small Diameter Segmented and Turbo Blades
- Dry Cut Core Bits

Stone and Concrete Counter Top Contractors
- Dry Diamond Tile Bits (Hole Saws)
- Dry Cut Masonry Stationary Blades
- Dry Cut Masonry High-Speed Hand Held Blades
- Small Diameter Segmented and Turbo Blades
- Cup Wheels and Polishing Pads

Framers, Siding Contractors, and Home Builders
- Plank Pro Blades
- TCT Blades

Roofers, Recyclers, Fire and Rescue
- 911 Blades

Painters
- Cup Wheels and Polishing Pads
Detectors

Pin Locators

**Magna-Trak® 200 Series Magnetic Locator**
- All the features needed in a magnetic locator, ergonomically designed for complete one-handed operation
- Digital readout and bar graph allow you to locate visually
- Used with audio tone allows for pinpoint accuracy, even in congested search areas
- Segmented battery level indicator means no power loss surprises
- Indicator cautions when detecting a power line
- Lightweight (only 3 lbs.)
- Water-resistant housing permits use in the rain
- Ergonomic handle with textured grip
- Lets you adjust volume and sensitivity with the same hand that holds the locator
- No mechanical controls – membrane is sealed from dust and moisture

**Magna-Trak® 100 Series Magnetic Locator**
The Original! The Magna-Trak® 100 LCD indicator offers a digital bar graph display, in addition to a standard audio tone, to precisely identify the target object, especially in noisy, congested areas. An additional feature is a visual reminder when batteries are low.

The lightweight Magna-Trak® 100 features simple, waterproof bottom, push-button membrane pad operation with an ergonomic design. The Magna-Trak® 100 offers easy battery access and outstanding battery life, and is backed by a five-year warranty.

Line Locators

**RIDGID SeekTech SR-60 Locator**
SeekTech Receivers with their large display give you the information you need when you need it to locate more with greater certainty. The SR-60 is for users wanting the fastest, easiest, most versatile receiver available. Choose the SR-60 for fast confident locates even under tough locate conditions (poor conductors, poor soil conditions, poor grounding, etc.)

The Mapping Display confirms a good locate signal and identifies distortion in congested areas using:
- Target Line: Guides the operator down the line and shows changes in direction
- Left-Right Guidance Arrows: Points the operator to the target utility
- Proximity Signal and Signal Strength: Helps the operator center the locator closer to the target for more confident locates

**Key Features:**
- Continuous Depth – Increase productivity by showing depth changes in real time
- Omni-Seek – Increase accuracy and efficiency when searching in passive mode. Continuously searches passive power and radio bands to locate and avoid unknown metallic lines
- Can trace any frequency from 10 Hz to 490,000 Hz
- Can trace energized lines and sondes (beacons) simultaneously
- Has all the ease of use and accuracy of the SR-20 but with ALL locatable frequencies
RIDGID SeekTech SR-20 Receiver

RIDGID’s new line of locating equipment meets the most demanding needs of the locating professional. Built to make even difficult locates easy, SeekTech is the only line locator that uses omni-directional antennas, guidance arrows and an easy to read mapping display to lead you quickly and accurately to the target line.

The antennas power the large mapping display which provides all the information you need to locate underground utilities with ease and confidence.

**Performance**
The Mapping Display confirms a good locate signal and identifies distortion in congested areas using:

- **Target Line** – Guides the operator down the line and shows changes in direction
- **Left-Right Guidance Arrows** – Point the operator to the target utility
- **Proximity Signal and Signal Strength** – Helps the operator center the locator closer to the target for more confident locates

**Other Features:**
- **Continual Depth** – Increases productivity by showing depth changes in real time
- **Current Strength** – Identifies current on target line for faster diagnosis of complex locates
- **Proximity Signal Minimizes depth over target and maximizes relative signal strength to guide you closer to the target independent of the current flow
- **Mapping Display** Virtually maps the utility to help guide you down the line. Shows signal distortion and line turns in real time
- **Continual Depth** Increase productivity by showing depth changes in real time
- **Guidance Arrows** Guides the operator to target line by minimizing signal gradient
- **Current** Identifies current on target line for faster diagnosis of complex locates
- **Signal Strength** Allows the operator to maximize signal strength over the target

**Key Features:**
- Proximity Signal Minimizes depth over target and maximizes relative signal strength to guide you closer to the target independent of the current flow
- Mapping Display Virtually maps the utility to help guide you down the line. Shows signal distortion and line turns in real time
- Continual Depth Increase productivity by showing depth changes in real time
- Guidance Arrows Guides the operator to target line by minimizing signal gradient
- Current Identifies current on target line for faster diagnosis of complex locates
- Signal Strength Allows the operator to maximize signal strength over the target

**Features Include:**
- **Distance:** Induce over 8 times more current than the competition onto a target line. More current means that you can walk and trace further than ever before.
- **Versatility:** Induces at 8 kHz and 33 kHz for low distortion locates. In direct connect mode, the SeekTech ST-33Q can transmit at any frequency between 10 Hz and 490,000 Hz making the RIDGID SeekTech ST-33Q one transmitter than can be used with all receivers.
- **Speed:** More signal equals less retracing of your steps to pick up and move the transmitter. Cut your inductive trace steps in half, by only having to set up the ST-33Q once. In direct connect mode, the LCD display gives instant feedback on current flow and line resistance.
- **Accuracy:** Induce more current at lower frequencies. Lower frequencies are less prone to jump onto other lines in congested areas reducing distortion and increasing accuracy.
- **Confidence:** More current on your line means more signal to locate. Combine your experience with the information provided by RIDGID Locators and you have the tools that allow you to work through difficult traces with confidence.

**Specifications:**
- Direct Connect: (Factory Set): 128 Hz, 1kHz, 8kHz, 33kHz, 93kHz
- Direct Connect: (User Defined): Any Frequency 10 Hz - 490kHz
- Induction: 8kHz, 33kHz
- Weight: 12.15 lb. (5.5 kg) w/batteries
- Power Source: 6 Alkaline or rechargeable batteries. (D-Cells) or 12V external power supply
- Power Settings: 5 mA to 400 mA on internal batteries; High Power option to 1000 mA
Fisher TW-6 Metal Detector

- The Fisher TW-6 medal detector is the industry leading 2-box locator Crystal controlled frequency in both transmitter and receiver increases tracing distance
- Unlike other units that use a separate transmitter and receiver, the TW-6, when mounted on the handle, can conduct “blind” searches of an area to locate an underground pipe or cable when the starting point is unknown
- VCO (Voltage Controlled Oscillator) gives a wider range of audio single to indicate the presence of metal. Even after the meter pegs, the audio signal goes much higher in pitch and volume
- Noise canceling circuitry eliminates power line interference

Fisher TW-82 Digital Line Tracer

Features:
- Impact Resistant
- Weatherproof
- Full time continuous readouts
- Lightweight
- Accurate, repeatable readings

Transmitter

- Output Frequency: 82.175 kHz
- Output Power (normal): Normal Setting = 0.25 watt
  High Setting = 1.0 watt
- Conductive Tracing: 2 to 3,000 ohms normal power-6dB
- Magnetic Strength: 2 to 8,000 ohms high power-6dB
- Inductive Tracing: 15 Vm², normal power
- Magnetic Strength: 25 Vm², high power
- Battery Type: Four D-cell batteries (included)
- Battery Life: 160 hours in normal power mode
- Weight, with batteries: 3.73 lbs

Receiver

- Frequency: 82.175 kHz
- Left/Right Guidance: Audible and visual
- Azimuth Indicator: Audible and visual
- Over-Target Indicator: Visual
- Battery Status: Visual
- Signal Strength Indicator: Numeric display & audible
- Signal Current Measurement: Numeric display, automatic
- Depth Measurement: Numeric display, automatic
- Battery Type: Two D-cell batteries (included)
- Battery Life: 40 hours
- Weight, with batteries: 3.60 lbs
Construction Master Calculator

**Construction Master Pro**

The award winning Construction Master Pro sets the professional standards for advanced construction math calculators. It has powerful built-in solutions and allows the user to set preferences and format essential calculations (i.e. fractions, metrics, stair clearance, etc.) established by codes or for dimensions frequently required by builders, carpenters, contractors, engineers, architects, estimators, tradespersons and many more construction professionals.

It is easy to use in the field or office for completing plans, layouts, bids and estimates – save time, money, material and frustration.

Heavy Calc Pro

**Heavy Construction Math Calculator**

Yard, Feet-Inch-Fraction and Metric formats Heavy Construction-Math Calculator. Save time, eliminate costly errors, reduce material and labor expenses on all construction jobs. Built-in functions quickly find solutions for Area, Volume, Weight, Slopes, Swell, and Shrink, Cut/Fill and More! Work in and convert between all building dimensional formats, including Metric. The most effective equipment, manpower planning and estimating tool you can own!
Scale Master Pro

Scale Master Pro XE
The recently updated Scale Master Pro XE makes it easy to do Linear, Area and Volume takeoffs with speed, accuracy and confidence when estimating, bidding or planning. The new ergonomic design makes it comfortable to hold, and the dual LCD displays make it much easier to read.

“MVS is a company that will do everything in its power to help, teach and service your needs in the construction industry. Everyone I’ve talked to from MVS is very easy to talk to, informative and easy to get along with.”

- Ryan Dacyk, Survey Manager, Sureway Construction Management
Muni plugs have flow through. Test plugs block the pipe completely.
Pneumatic

Muni

Multi-Size Test Plug

Multi-Size Variable Flow-Thru Plugs

• Sizes Available: 4” – 96”

Test

30 Series Test Plug Family

20 Series Test Plug Family

15” to 24” MW’s plugs are stocked with either a 4”, 6”, or 8” by-pass, for air or water testing, sewer bypass or simply stopping the flow.

Mechanical

Mechanical Plugs

• Sizes Available: 8” – 36”
• By-Pass Available
Deflection Gauges & Air Testing

Deflection Gauges

Deflection gauges (mandrels) are used to test flexible sewer pipe for out-of-roundness or deflection. This testing ensures that flexible pipe had been properly bedded and backfilled to give optimum performance (Per ASTM Designation D2321).

Both steel and aluminum gauges utilize a nine arm design to ensure the pipe is tested accurately. This design also allows gravel and debris to easily pass through. Other gauges can get hung up - causing a deflection test to fail, even though the pipe in within tolerance.

Sized to .01”, both deflection gauge styles meet ASTM requirements.

**Aluminum Fin Style Deflection Gauge:**
- Lightweight, corrosion-resistant
- Field-verifiable without a proving ring
- Assembles without tools
- All sizes fit through standard 24” manhole
- Fins for 4” - 15” gauges have skid size equal to the nominal pipe size - gauge will meet regional codes and will not tip in the line
- Nine-arm design ensures testing accuracy
- Open design allows gravel and debris pass-through

**Proving Ring**
- Used to verify deflection gauge sizes
- Standard sizes: 6” - 15” SDR 35 5% and 8” - 12” SDR 35 7.5%
- Custom sizes for 5” - 18” also available

**Field Verification:**
Cherne’s Fin Style Deflection Gauges are designed to be field verified by inspectors without the use of a proving ring. Simply place two fins end to end as pictured and measure the width. Add one inch to the mandrel and you have the outside dimension of the gauge. Using this method simplifies the inspector’s job of verifying sizes on deflection gauges.

Air Tester

**Smart Box**
Each “Smart Box” Line Acceptance Kit contains an air test panel, your choice of test plugs, 50’ triple hose, 30’ inflation line with gauge and a hand pump; all contained in a heavy duty plastic box.

Call 1-877-244-5434 or visit www.mvs.ca
Prior to using scale products through MVS our service and product reliability was to say the least, disappointing! With MVS we enjoy a reliable, quick service and the RMT product line has provided a cost effective way to minimize inventory concerns. Due to the cost benefits we’ve moved from purchasing a few scale units to implementing a company-wide wireless scale inventory control solution. With 90 plus years of experience in the industry we understand where the return on investment lies.

- Mark Skjaveland C.E.T., Operations Manager, Production Operations, Aggregate Division, BURNCO Rock Products Ltd.
Helper 7 All-In-One Loader Scale

The Helper7 makes integration a complete hit. One unit includes printer and ikey data memory reader. Helper7, the all-in one concept, brings integration to your loader and brightness control.

Still the most compact
The Helper7 unit includes a printer and a USB reader for transferring loading data to a memory stick. No junction boxes are added, making the Helper7 very compact and extremely resistant to environmental conditions.

Features:
- In-motion weighing
- Real time bucket tip off
- Customer listing
- Target weighing
- Product listing
- Product production recording
- Integration program

• Load ID
• ipot Lite payload management software
• Wireless communication
• Four (4) loader calibration
• Fully lighted keypad

Helper 7 Printer Features:
- Thermal high speed printing, indestructible when compared to the needle printer
- Printouts: Truck load – Grand total - Loading report
- Printed info includes: Company and customer name, product, name, load ID, ticket no., date-time, weight, volume

VEI Millennium
The VEI Millennium is a great and simple product that prevents overloads at a very affordable price. The 6 buttons are oversized and well identified for fast operating.

The Millennium will inevitably become the favourite of all your operators!

Advantages:
- Fast loader scale
- Bouncing and speed compensator
- You never have to stop the boom while loading
- No button to push to add a weight

Characteristics:
- Automatic weighing in motion
- 0±1% accuracy
- Real-time last bucket tip-off
- Standard 3-year warranty
- 2 different calibrations available
- Standby mode available
- No hydraulic hoses preventing leaks
- All cables are protected ensuring durability
- Easy to install and calibrate
- National dealer network for local support

Data & Load Management:
- Manage 20 products
- Manage project ID
- Ultra-fast thermal printer available
- Data transfer system available
- TrackWeight wireless system available
- Multiple truck ticket copies available on demand
- Grand total printer report by products
**Helper Mini**

**Helper mini is the ideal solution for compact loaders and skid-steers.**

The most simple and cost-effective solution combined with VEI weighing technology makes it the ideal tool for primary weighing requirements. An unrivalled start with hi-tech instrumentation providing a fully-updated situation whenever you want.

**Features:**
- In-motion weighing
- Real-time bucket tip off
- Product listing
- Product production recording
- Load ID listing

**Helper P5 Legal for Trade**

The VEI legal-for-trade system represents the ideal weighing system for small gravel pits, where a one-man operation can load trucks and invoice customers directly from the loader. The typical weighing procedure is fast. The bucket is loaded and when approaching the truck, the operator stops the loader and weighs the bucket in motion until the Helper P5 automatically confirms the weight. The VEI scale ensures that the angle of the machine and the bucket are on specification in order to display the weight. It’s the ideal tool for your local market, as well as for any remote location or government job.

VEI’s approval is under AM-5467C of Measurements Canada approval index. The system is available for wheel loaders with a maximum bucket load capacity of 6000 kg.

**TrackWeight Mobile**

Every time you CLEAR the total on your VEI scale, the loading data is sent to the TrackWeight Mobile module connected to the RS-232 port of your scale. Using the cellular network, your data are sent to your trackweight account on the Internet! If cellular coverage is weak, TrackWeight Mobile will send the data until he receives a confirmation of reception.
## VEI Product Selector Table

### Accuracy & Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>helper21</th>
<th>helper7</th>
<th>Millennium</th>
<th>helperMINI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy on all wheel loaders/backhoes</td>
<td>0 ± 1%</td>
<td>0 ± 1%</td>
<td>0 ± 1%</td>
<td>0 ± 1%</td>
</tr>
<tr>
<td>Accuracy on forklifts/skid steers</td>
<td>-</td>
<td>-</td>
<td>0 ± 2%</td>
<td>0 ± 2%</td>
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<tr>
<td>In-motion weighing</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Real time tip off</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Automatic weighing</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Auto-pilot Guided Calibration</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Axial weighing feature</td>
<td>Yes</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Temperature sensor</td>
<td>Yes (*opt.)</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Number of Calibrations</td>
<td>4</td>
<td>4</td>
<td>2</td>
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<td>Standard parts warranty</td>
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### Data Management

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Customers/Carriers/Destination (shared)</td>
<td>1699</td>
<td>680</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Purpose of transport/Project &amp; Order ID (shared)</td>
<td>200</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Product</td>
<td>199</td>
<td>40</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Vehicles with auto-target</td>
<td>1999</td>
<td>Manual</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Preloaded target</td>
<td>24</td>
<td>Manual</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Blends recipes with up to 9 products</td>
<td>24</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Loadings in progress</td>
<td>51</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Driver recognition</td>
<td>Yes</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Ignition security cut-off</td>
<td>Yes</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Simultaneously manage blends &amp; truck load</td>
<td>Yes</td>
<td>•</td>
<td>•</td>
<td>•</td>
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<tr>
<td>Load ID</td>
<td>Yes</td>
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</tr>
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</table>

### Ticket Print Out

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<th>Feature</th>
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<tbody>
<tr>
<td>Thermal paper</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Paper sizes</td>
<td>80x80mm</td>
<td>50x57mm</td>
<td>50x57mm</td>
<td>50x57mm</td>
</tr>
<tr>
<td>Company’s name &amp; phone #</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Company’s complete address</td>
<td>Yes</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Date-time-ticket number</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Printing of managed data</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Signature area at the bottom</td>
<td>Yes</td>
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</tr>
</tbody>
</table>

### Data Transfer

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pocket portable memory</td>
<td>Yes (USB)</td>
<td>Yes (USB)</td>
<td>Yes (Data Logger)</td>
<td>Yes (Data Logger)</td>
</tr>
<tr>
<td>PC production data management</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Trackweight Mobile Cellular</td>
<td>Yes Contact RMT</td>
<td>Yes Contact RMT</td>
<td>Yes Contact RMT</td>
<td>Yes Contact RMT</td>
</tr>
<tr>
<td>Short range wireless</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>•</td>
</tr>
</tbody>
</table>

---

**TIP**

VEI Loader Scales are accurate to 99% and have the only “legal-for-trade” loader scale in Canada, as recognized by Measurement Canada.

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Call 1-877-244-5434 or visit www.mvs.ca
Belt Scale

Advanced Belt Scale

The 4-in-1 monitor allows you to manage 4 belt sales with one single monitor. Your 2nd, 3rd and 4th belt scales will cost you about half the price of the first one! Other features like the automatic angle compensator for tele-stackers for the ultra-flat frame for low-profile conveyor, are also available to make your installation easier, faster and more accurate.

Features: Overload Prevention & Productivity Monitoring

- Protected enclosed load cell
- One cable from scale to monitor
- One monitor works with 4 belt scales
- Ultra-low profile carriage available (2 ½" thick)
- Wireless Option makes Install Quicker and Easier

Dumper Scale

Dumper Load

The Dumper Load payload monitoring system for dumper trucks was developed directly on opencast sites in order to perfect the instrument’s inherent operating and automation characteristics. Integration of the instrument into dumper work cycles means that it is recommended by manufacturers as a guaranteed means of preventing overloading.

Overload Prevention and Productivity Monitoring

Versatile and fully automatic, it ensures that the dumper is used in compliance with its design standards. Preventing overload means lower maintenance costs and tyre wear, important considerations when managing a dumper fleet.

The instrument is also capable of remote transmission of load status in order to optimize the distribution of the fleet within a mine. Proper distribution of the fleet cuts down on unproductive waiting times and assists decision-making with regard to its replacement. It is clearly an indispensable tool that ensures reliable data and no question marks.
TrackVision Camera System

TrackVision viewing systems are particularly suitable for professional use in off road conditions. The camera monitor systems are shock and vibration resistant and guarantee a clear sharp image even under the most extreme conditions.

The system is also designed for use in low light. The camera actually has better vision in the dark than the human eye. High quality materials and strict quality controls guarantee reliability and a long product lifespan.
Laser Guided Machine Control

Level Best

Level Best Laser Grading Box

Fine Grade Made Easy: Level Best introduces a laser grading box for skid steer loaders with superior performance and strength. The Para-Level laser grading box delivers innovative features which provide money-saving solutions for your business. Achieve flatter, more consistent grades while accelerating your fine-grading process...a win-win combination. Here’s what makes the Para-Level laser grading box so successful:

- Push-Pull Design
- Stable Platform
- Unique Box Adjustment
- Tighter Tolerances
- Durability

Applications:
- Concrete Subgrade • Parking Lots
- Fine-Grading • Golf Course Tee Boxes
- Athletic Fields • Horse Riding Rings

Work Saver

Skid Steer Grader Blade

The patented SSGB-8 Grader is designed to be used by asphalt, landscaping, and concrete flatwork contractors. The unit has an 8’ six-way hydraulically controlled moldboard operated by an in-cab remote. With an optional laser system, the grader will maintain grade to tight tolerances. To help prevent damage, the moldboard is shear pin protected. Unit comes complete with ½” “connect under pressure” flat-faced hydraulic couplers and a reversible beveled cutting edge for long life. Optional End Plate Kit and Laser Pole Kit available.

SPLMC

Automatic Blade Control Systems

Spectra Precision® CB25

The easy-to-use Spectra Precision® Laser CB25 Single Control Box lets you automatically control grade elevation for balancing and rough grading applications, or automatically control the blade for fine grading. Proportional receivers and hydraulic valves provide maximum system accuracy and smooth, precise operation.

Automatic Blade Control Systems

Spectra Precision® CB30

The advanced, yet affordable Spectra Precision® Laser CB30 Dual Control Box simultaneously controls lift and tilt of a skid-steer loader attachment small dozer or grader blade. The CB30 is an automatic machine control product that offers the operator both tilt and lift control in one control box. Ideal for small contractors who need affordable automatic grade control, as well as mid-sized general contractors, the CB30 delivers reduced costs, greater jobsite efficiency, and faster return on investment.

Call 1-877-244-5434 or visit www.mvs.ca
Spectra Precision LR20 Receiver
Compact laser receiver used on mini-excavators and compact machines

Applications:
- Landscaping, building pads, sports fields, concrete flatwork, tennis courts
- Footers, storm drains, utility, sewage
- General construction grade and depth control

Features & Benefits:
- 8-inch, 360-degree laser reception provides large working area and range
- Polycarbonate housing and elastomer over molding provides rugged durability for years of reliable use
- Super bright grade display with Green on-grade LEDs provides superior depth/elevation indication
- Push button setup for ease of use and application flexibility
- Powered by NiMH batteries; optional machine power cord available
- Center and offset on-grades are ideal for both grading and excavating applications
- Built-in plumb indicator for fast, accurate grade checking in excavation applications
- LR20-1 kit includes adjustable magnetic mount that fits in case with receiver for easy transport

Spectra Precision LR30 Receiver
Used on dozers, box blades, levelers

Applications:
- Machine mounted grade checking
- Grading and leveling

Features & Benefits:
- Use on grading and excavating equipment including: dozers, graders, scraper, skid steers and levelers
- Five channels of grade information plus directional out-of-beam indicators
- Three selectable accuracies meet job tolerances from rough grading to final finishing
- Full 360-degree reception picks up the laser from all directions
- Ultra-bright LED’s with Green on-grade provides easy-to-see display to match ambient lighting conditions.

To perform surveys faster and easier, check out the vehicle mounting systems on page 57.
Spectra Precision LR50 Receiver
Features built-in blade tilt and excavation plumb indicator

Applications:
• Machine mounted grade checking
• Grading and leveling
• Excavation and trenching

Features & Benefits:
• Built-in blade tilt indicator helps the operator keep the blade level for increased accuracy and productivity
• Center on-grade provides an equal amount of grade information above and below on-grade. Use on dozers, graders, scrapers and box blades
• Built-in plumb indicator for fast, accurate grade checking in excavation applications
• Offset on-grade gives you more range above grade using the entire receiver for more productive excavation
• Up to six channels of grade information plus directional out-of-beam indicators

Spectra Precision LR60 Receiver
Features excavation plumb indicator and angel compensation indication

Applications:
• Machine mounted grade checking
• Grading and leveling
• Excavation and trenching

Features & Benefits:
• Patented Angle Compensation Indication automatically calculates and corrects the grade display for the angle of the dipper arm
• Check grade with the dipper arm extended or retracted up to 30 degrees
• Built-in plumb indicator for fast, accurate grade checking
• Center on-grade provides an equal amount of grade information above and below on-grade. Use on dozers, graders, scrapers and box blades
• Extended reception height stays in the beam longer providing addition grade information
• Offset on-grade for productive excavation
• Up to eight channels of grade information plus directional out-of-beam indicators
• Four selectable accuracies for each on-grade location
55 Tripods
55 Tripod Accessories
56 Grade Rods
56 Poles
56 Bipods
57 Vehicle Mounting Accessories
57 Prisms
58 Bags & Cases
58 Plumb Bobs/Gammon Reels
The Tri-Max® by Crain is without a doubt the best instrument tripod on the market today. It’s the only surveying-grade tripod with certified accuracy – highly recommended for all servo-driven and robotic total stations and 3-D laser scanners.

Tripods

Aluminum Tripod  Elevating Tripod  Fixed Height for GPS  Wood/Fiberglass

Tri-Max® Standard Quick Clamp Instrument Tripod

Tripod Accessories

Fixed Tribrach Adapter  Optical Plummet Twist-Focus Tribrach

Call 1-877-244-5434 or visit www.mvs.ca
Grade Rods

Aluminum Leveling Rods
- 3 Section, 3m (1.15 closed) Metric
- 5 Section, 7m (1.67m closed) Metric
- 5 Section 5 Meter (1.22m closed) Metric
  - E-faced - Imperial

Wood/Fiberglass Leveling Rods
- 7.6, 5 Section, Metric

Poles

Radio Antenna Pole
- Snap-Lock
- 6 feet

GPS Rover Pole
- Carbon Fiber
- Fixed 2 or 2.5 Meters

Prism Pole
This pole features the TLV® locking mechanism. It’s constructed of sturdy aluminum tubing and a two-stage adjustable top-threaded tip. It’s finished with electrostatic powder paint coating on the outer pole and permanent silk-screened dual graduations on the inner pole.

Bipods

Thumb Release Bipod

Open Clamp Bipod
The 12-inch, lightweight bipod is used to keep a GPS or robotic pole off the ground when not in use.
**Vehicle Mounting Accessories**

**ATV Pole Bracket System**

The universal bracket system fits most ATVs, it attaches with U-Bolts to the luggage rack. The bracket's tripod design makes a rigid framework that holds up to vibration and shock of ATV operation.

The bracket holds all poles from 1- to 1.25-inch O.D. Quick clamp handles make loading and unloading the rover pole fast and secure. This unit is fully adjustable; the slotted channels allow customization of all components to your particular set-up needs.

A data collector/controller can connect to the handle bars and quickly transfer back to the pole with our new ball-and-socket 5199-Series bracket (sold separately).

**GPS Truck Door Bracket**

This bracket holds a GPS pole to the door of your survey truck. and is great for grade checking, TOPOs, estimating, RTK surveying, and site preparation. The bracket is easy to put on and take off and features a non-damaging mount. It utilizes a safety strap under tension to keep it on the door.

The bracket fits most midsize to full-size trucks, and SUVs. The door opens and closes with the bracket attached to the door. The bracket holds all GPS- and RTK-type poles.

**Prisms**

**62mm Premier Prism Assembly with 6 x 9 inch Target**

The Premier Prism Assembly features a copper-coated canister type prism. It is waterproof, and has a M20 universal mounting thread.

The tilting holder is anodized aluminum and features an improved locking clamp screw design and an 18-gauge steel target.

The prism can be mounted in either 0 or -30 mm offset positions.
Plumb Bobs/Gammon Reels

Gammon Reel
An aid to set up and deploy a clean, accurate plumb. Slip the reel into your palm and draw the bob to desired position and stop with finger pressure. Steel clock spring zips the string back into the case.

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<th>Item</th>
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<td>11-728</td>
<td>Gammon Reel, with hi-vis black and orange target</td>
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<tr>
<td>11-729</td>
<td>12’ (3.6m) Gammon Reel</td>
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<td>11-730</td>
<td>7’ (2.1m) Gammon Reel, with 72 lb. test orange nylon cord</td>
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<tr>
<td>11-731</td>
<td>Bobbin or orange nylon cord, 24 yds. (21.9m)</td>
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Brass Plumb Bobs
• 6 – 80 oz. Available

Leather Plumb Bob Scabbards
Heavily stitched and riveted for long life, these sheaths are made of top grain saddle leather. A strong metal snap secures the bob in the sheath.
Paint

- Marking Paint
  - Water or solvent based
  - VOC and MIR Compliant
  - Spray Thru cap
  - High delivery valve for adverse conditions
  - Available in Orange, Pink, Yellow, Green, Blue, Red & White
  - Available accessory paint stick
  - Special pricing for pallet orders

Flagging

- Flagging Tape
  - Specially formulated for cold weather (-40°C)
  - Full 125’ length with a 1” core
  - Shrink wrapped in tubes of 10
  - 100 rolls per case

- Flagging Pins
  - Wire Shaft: 4” x 5” x 30”
  - Packaged 100 per bundle
  - 10 bundles per case = 1000 flags per case

Markers & Crayons

- Sharpie Felt Pens
  - Marks on wet and oily surfaces
  - Special water-resistant ink dries quickly

- Dixon Lumber Crayons
  - These crayons last up to 10 times longer than ordinary molded wax crayons.
  - Fade, water and smear proof. Won’t melt in direct sunlight, work on wet, dry or (green) lumber, metal, concrete and other surfaces.
  - Hexagon shaped to fit lumber crayon holders. 4-1/2” x 1/2”
  - Available in 12 colors

Field Books

- Duksbak DJ10
  - White Poly Covers, 3.25” x 5.25”, Top Spiral Bound, 50 Pages, Horizontal Lines.

- Duksbak WL7
  - Orange poly covers, 4.5” x 7”, 50 sheets, 100 pages. Available in all ruling styles. Side spiral bound.
"Rite in the Rain" Paper
Copy or laser print your own all-weather forms, charts, maps, and worksheets on patented "Rite in the Rain" All Weather Copier Paper. Now you can have the convenience of using your existing data sheets on a paper that can survive in any weather condition. For just pennies a sheet, "Rite in the Rain" enables you to work efficiently, regardless of the environment. Paper is 20# bond weight. Completely recyclable wood-based paper! **Not for ink-jet printers.** Copy or laser print both sides!

- Size - 8 1/2” x 11”
- Page Pattern - blank
- Pages - 200 sheets
- NSN - 7530-01-498-2083
- Weight - 3.1 lb. EA

"Rite in the Rain" Pen
While a pencil works great on our all-weather products, sometimes you just need a pen. These all-weather pens write on wet paper and upside down in temperatures from -30F to 250F. Chrome/Plastic barrel.

- Size - 5 1/4” long
- Weight - 0.05 lb. EA

"Rite in the Rain" Level Books
"Rite in the Rain" Bound Books ensure that your valuable data won't be lost. With a variety of page patterns, there is “bound” to be a book for you. These books have 160 pages (80 sheets), including a title and contents page.

- Size - 4 3/4” x 7 1/2”
- Page Pattern - Level
- Binding - Sewn
- Cover - Heavy Polydura (yellow)
- Pages - 160 (80 sheets)
- Weight - 0.6 lb. EA

*Lath*

- 18” x ½” x 2”
- 24” x ½” x 2”
- 36” x ½” x 2”
- 48” x ½” x 2”
- Bundles of 50

*Special Pricing for Pallet Orders*

*Stakes*

- 24” x 1” x 2”
- 36” x 1” x 2”
- 48” x 1” x 2”
- Bundles of 25
- Only available in BC

*Hubs*

- 8” x 2” x 2” & 12” x 2” x 2”
- Bundles of 25
- Only available in BC

Call 1-877-244-5434 or visit www.mvs.ca
63 Stringline & Stringline Accessories

64 AQUA PLUG / ThoRoc®
Stringline & Stringline Accessories

**SL100 Stringline Stake**
- High Quality Steel
- ¾” Diameter X 48 – 60” long
- Easy Driving
- Extended Life

**SL110 Downward Bend**
- Cold Drawn Steel
- Corrosion Resistant
- Angled Entry Slot

**SL151 Flat Fiberglass Bar**
- No Thermal Expansion
- Excellent Flexibility
- Durable Fiberglass
- High Visibility Yellow
- 8’4” Lengths
- 16’8” Lengths

**SL109 Stake Extending Clamp**
- Teardrop Shaped Holes
- Corrosion Resistant
- Steel Construction

**Radius Clips**
- SL114 Flatbar Radius Clip
- SL115 3/8” Rod Radius Clip
- SL118 ¾” PVC Pipe Radius Clip
- SL119 1” PVC Pipe Radius Clip

**SL121 Stringline Clamps**
- Teardrop Shaped Holes
- Independent Clamping
- Corrosion Resistant
- Steelbox Construction

**SL122 Stringline Clamps**
- Instajust Spring Action
- Heat Treated Steel
- Corrosion Resistant
- No Bolts or Wrenches Required

**SL123 Stringline Clamps**
- Precision Shaped Holes
- Independent Clamping
- Corrosion Resistant
- Steelbox Construction

**Form Clamp**

**SL140 Stringline**
Diamond Braided Polyester with Core Available in Fluorescent Yellow & White on 1,000’ Spools (Blue & Orange could be special ordered)

**SL141 Stringline**
Diamond Braided Polyester with Core Available in Yellow on 1000’ Spools

Call 1-877-244-5434 or visit www.mvs.ca
**AQUA PLUG**

AQUA PLUG consists of accurately weighed hydraulic cements, non-metallic aggregate and chemical admixtures. These materials are preblended and require only mixing with water before use. AQUA PLUG contains no chlorides or other admixtures which could promote corrosion of reinforcing steel or prestressing steel cables. AQUA PLUG sets within 4 minutes at 20º C (68º F) with little or no plastic shrinkage.

**Uses:** AQUA PLUG can be used in interior and exterior applications both above and below grade. Typical applications include:

- Stopping running water or seepage at defects or joints in concrete manholes, sewer pipes, tanks, elevator pits, basement walls and concrete or masonry surfaces experiencing water penetration
- Sealing wall/floor joints in below grade concrete or masonry walls
- Anchoring handrail posts or metal fixtures in concrete where high early strength is required
- Non-structural repair and anchoring underwater
- Temporary grouting of soil- or rock-anchor plates

**ThoRoc® Plug**

ThoRoc® Plug is a cement-based water-stop mortar. It will stop running and seeping water through cracks in concrete under hydrostatic pressure. It can also be used to provide a watertight seal in pipes, tanks, manholes, and a variety of other locations.
Clothing

**Surveyor Vest**

100% Polyester Surveyor Safety Vest c/w 7 front pockets, radio Pocket, 4 inside pockets, back pouch with ruler slot. 4” 3m Reflective tape. Meets CSA-Z96-02 Class 2 Level 2. Size’s S-XXXL available in Lime and Orange.

**Polyester/Cotton Surveyor Safety Vest**

8 front pockets, 4 inside pockets and radio pocket. Double pack pouch 4” 3m reflective tape, meets WCB and CSA standards. Size’s S-XXXL in Orange and Lime and Red.

**Surveyor Vest**

100% Polyester Lime Green Soft Mesh safety Vest c/w 2 bottom pockets 4” 3m reflective tape, 5 point tear away. Meets CSA Z96-02 Class 2 level 2. One size fits all.

**Bomber Jacket**

100% Polyester Lime Green Bomber Jacket, 5 in 1. c/w 3m Scotchguard, removable sleeve’s and fleece insert, Waterproof, 3m Reflective tape. Meets CSA Z96-02 Class 2 Level 2.

**Safety Sash Belt**

- 2” Reflective Tape
- One Size

**Safety T-Shirts**

Lime High Visibility Mesh Safety T-Shirts (short sleeves) One breast pocket 4” 3m reflective tape Meets CSA Z96-02 Class 2 Size’s S-XXXL

**Coveralls**

100% Cotton Navy Blue Coverall, zipper front, 2 ¼” grosgrain tape c/w 3/4” 3m Silver Industrial reflective scotchlit tape. Sizes S-XL.

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100% Polyester Surveyor Safety Vest c/w 7 front pockets, radio Pocket, 4 inside pockets, back pouch with ruler slot. 4” 3m Reflective tape. Meets CSA-Z96-02 Class 2 Level 2. Size’s S-XXXL available in Lime and Orange.

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**Safety Sash Belt**

- 2” Reflective Tape
- One Size

**Safety T-Shirts**

Lime High Visibility Mesh Safety T-Shirts (short sleeves) One breast pocket 4” 3m reflective tape Meets CSA Z96-02 Class 2 Size’s S-XXXL

**Coveralls**

100% Cotton Navy Blue Coverall, zipper front, 2 ¼” grosgrain tape c/w 3/4” 3m Silver Industrial reflective scotchlit tape. Sizes S-XL.
Gloves & Glasses

Work Gloves
100% Polyester Glove with Latex Grip Size's M-XL available in Lime and Orange.

Safety Glasses
Clear Safety Glasses – Meets the current ANSI Z87+ Standard.

Arrow Boards

Wanco Arrow Boards
Wanco arrow boards play an essential role in keeping the work zone safe. Highly visible, easy to operate, rugged and dependable, Wanco arrow boards set the standard. Wanco has several arrow board models to fit your specific needs, including models with environmentally friendly WIECO™ Technology, the most power-efficient arrow boards in the industry.

Man Hole Lift

Complete Tripod Kit
Kit includes: 7’ Tripod, 50’ 3-way self retracting lifeline/recovery winch, carabiner, pulley, kwik connect brackets, tripod carry bag & winch carry bag.
65’ material winch can be added to the second leg of the tripod. Includes carabiner & pulley.

Call 1-877-244-5434 or visit www.mvs.ca
Equipment Service

Service & Extended Warranties: Laser, Optical Equipment & GPS/Robotic

When it comes to your equipment, having it in good working order is important. Mountainview Systems has manufacturer certified service technicians with top of the line, well equipped service centers.

To better support you while your equipment is in for service, we offer loaners and rentals with special discounted rates. Whether your Trimble equipment is old or new; needs to be calibrated or repaired; MVS will honour the manufacturer or extended warranty.

With four locations across Western Canada (Calgary, Edmonton, Saskatoon & Surrey), MVS will do our utmost to get your equipment back in your hands as quickly as possible.
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Be sure to check us out online at www.mvs.ca for more information or call 1-877-244-5434