

PRODUCT CATALOG





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# The Most Reliable

*Weather & Environmental Meters in the World*

For more than 30 years, we’ve been improving and adding to the Nielsen-Kellerman family of products, including our Kestrel Weather and Environmental Instruments. On the spot and on the go, accurate measurement of critical conditions is our core business. We know our customers rely on their Kestrel Meters and we’re committed to never letting them down. Every Kestrel Weather & Environmental Meter is developed, built and supported by NK in Boothwyn, Pennsylvania. Controlling every detail, every day, is the only way we know how to ensure our products work right every single time you hit the “on” button.



# REAL PEOPLE

*Rely on Kestrel Weather & Environmental Meters*

## Kestrel Weather & Environmental Meters

help families pack the right clothes for their Saturday hike, and mountaineering teams monitor frigid temperatures on Everest expeditions. They provide up-to-date environmental conditions relating to animal activity, drag race engine performance, fire behavior and paint drying. Kestrel Weather Meters have become an essential tool in literally hundreds of industries and activities where environmental conditions play a major role.

Standard Kestrel Meters measure every common environmental parameter and meet the demands of users who need quick and accurate current readings. Our advanced 4000 series meters add data logging, graphical display and more calculated measurements. Our specialty Kestrel Meters address specific markets, incorporating job-specific measurements and features that professionals have requested. Kestrel's accuracy and rugged reliability, combined with our ability to respond to our customers' requests, means professionals rely on Kestrel to not only get the job done, but to get the job done safely and more easily.





# ATHLETICS

Preventing exertional heat stress in athletics has become an important responsibility of many athletic trainers, coaches and other sports-related health-care providers who rely on Kestrel Weather & Environmental Meters. At every athletic endeavor, from little league through professional sports, lives may depend on the accurate measurement of environmental conditions such as temperature, relative humidity, heat stress index, wet bulb temperature, wet bulb globe temperature (WBGT) and several other environmental parameters.

## COACHING, ATHLETIC TRAINING, SPORTS MEDICINE

To prevent athletes from suffering exertional heat stress, athletic trainers, coaches and sports medicine professionals can look to a Kestrel Meter for real-time and accurate weather data. Monitoring and recording these outdoor conditions are crucial steps when ensuring heat safety for athletes practicing or playing outdoors. Using a Kestrel 4400 Heat Stress Tracker, athletic trainers and coaches can record data during practices and games throughout the season. With 2300 storage points, users can wirelessly transfer the information captured to their PC or Android™ phone for future reference via the Bluetooth® wireless data option in the Kestrel series.

In addition, users can set customizable WBGT warning screens on their Kestrel 4400 in accordance with their state or school guidelines. Six thresholds are included in the software and each can be set to signal a visual warning on the display so users can proactively monitor conditions and keep players safe.

With its tripod mountable set-up, the Kestrel Meter provides an easy and accurate hands-free option for gathering crucial weather data. Weighing just 4.5 ounces, the Kestrel 4400 is extremely portable and can easily be carried in a user's pocket or hand.

## OUTDOOR EVENT ORGANIZATION

Weather is such an important factor when coordinating an outdoor event. The management and prevention of heat illness are necessary when planning a safe and successful walk or race. A Kestrel Weather & Environmental Meter is a portable weather station that can provide accurate readings of the current conditions to aid the organizer in making informed, data-based decisions regarding an event.

*\*WBGT is only available in Kestrel 4400/4600 Heat Stress Trackers.*

## PREFERRED KESTREL MODELS



3500  
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4000  
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4400  
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4600  
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VANE  
MOUNT  
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COMPACT TRIPOD  
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NK and the Korey Stringer Institute (KSI) have formed a partnership to educate the public about the importance of preventing heat stress in sport. KSI's mission is to provide first-rate information, resources, assistance and advocacy for the prevention of sudden death in sport, especially as it relates to exertional heat stroke.





# CONSTRUCTION & HVAC

Construction and building trades require skill, knowledge and experience to deliver solid results. Weather can negatively affect even the best laid work plans. Kestrel Weather & Environmental Meters allow you to account for environmental conditions that cost you time, money and labor.

## CRANE OPERATIONS

Strong winds impose additional loads on mobile cranes and affect stability. Exceeding the manufacturers’ stated wind speed limits can result in damage to the crane, or worse, surrounding structures and workers. In cold conditions, the Kestrel Meter gives the vital temperature and wind chill data needed to assess shock loading, crane hydraulics and derating of the crane as well as the safety of the personnel working in the cold conditions.

## CONCRETE PLACEMENT

Plastic shrinkage cracks occur when the surface of the concrete dries rapidly and shrinks before it can gain sufficient tensile strength. When ambient conditions and concrete temperatures combine to produce conditions that create a high evaporation rate, the chances of the surface drying prematurely and shrinkage cracks forming increases. Use a Kestrel 3000 to measure the relative humidity, ambient temperature and wind velocity right where the concrete is being placed, then calculate the evaporation rate using reference charts. Even better, use a Kestrel 4300 and get a direct readout of evaporation rate. Either way, taking the steps needed to prevent plastic shrinkage cracking can save you thousands of dollars, and your reputation.

## STEEL BRIDGE COATING & LINING

Bridges and other large steel structures are painted with coatings that protect the integrity of the steel and prevent corrosion. It is critical to monitor ambient temperature, relative humidity and dewpoint as well as the surface temperature of the steel to ensure good adhesion and proper curing. A Kestrel Meter does the job.

## SCAFFOLDING

Monitoring the wind speed and wind direction at the job site is required by industry standards including OSHA and ANSI. Excessive wind speeds can cause equipment and property damage, injury and even fatality. With a Kestrel Meter, you can easily monitor and record all relevant job site environmental conditions. For a small price, you can avoid the high cost of a scaffolding accident on your watch. Monitoring the wind is not just your responsibility – it’s your liability.

## HEATING, VENTILATION, AIR CONDITIONING & REFRIGERATION

HVAC/R system commissioning and verification can determine that a system is working correctly, or can identify a problem area in a faulty system. Volume air flow is a calculation based on the air velocity and the dimensions of the flow opening, and it’s one of the most important measurements HVAC/R professionals require. The Kestrel 4200 automatically calculates air flow in CFM, making the technician’s job easier and faster. Because it also measures the moisture content of the air, it is quickly becoming an essential piece of equipment for the dehumidification and mold inspection and remediation professional as well.

## HOME INSPECTIONS

A large portion of any home inspection will be dedicated to examining the heating and air conditioning systems. Quickly checking the consistency of warm and/or cool air in each room is as easy as entering volume and the duct size and holding a Kestrel 4200 in the air flow. The 4200 also logs data with the press of a button, allowing home inspectors to save data and review it back at the office when writing up their report.

## INDUSTRIAL HYGIENE

Industrial hygiene professionals aim to monitor and protect the health of workers and the community. Kestrel Weather & Environmental Meters enable industrial hygienists to do just that by providing accurate, reliable information on field conditions. Kestrels are used to evaluate ventilation in hazardous materials remediation (e.g. asbestos abatement and mold remediation) where contractors must set up negative pressure containments using HEPA-filtered fan units.

## OUTDOOR WORKERS

OSHA is campaigning to prevent heat illness in outdoor workers and reports that every year thousands of workers become sick, and some even die, working in the heat. In every instance, accurate and localized measurement of heat stress conditions is a key component of a heat illness prevention plan. The Kestrel 4400 Heat Stress Tracker answers this need with on-the-spot measurement of WBGT.

## PREFERRED KESTREL MODELS





# FARMING & AGRICULTURE

*In a regulation-intensive activity, the Kestrel helps you ensure compliance. Relative humidity, wind speed and wind direction are all critical measurements for ensuring safety and effectiveness in farming and agriculture. Minimize waste and maximize your productivity with a Kestrel Meter.*

## SPRAYING

The Kestrel's accurate wind speed readings ensure safe and effective spraying during appropriate weather conditions. Many locales have regulations specifying maximum permitted wind speed when spraying to minimize spray drift. In hot, dry conditions, evaporation can send your expensive chemicals uselessly into the air rather than onto your crops. Selecting an appropriate nozzle and increasing the spray droplet size can minimize costly evaporation.

## BARN VENTILATION

Proper ventilation, temperature and humidity control of livestock facilities can reduce disease and prevent stock loss as well as improve your rate of gain and feed-conversion efficiency. Measure the conditions that matter most – right where your stock are experiencing them.

## IRRIGATION AUDITS

Inefficient irrigation systems are costly: they waste water, wash off fertilizers and lawn chemicals, and degrade sidewalks and roads prematurely. The ultimate tool for irrigation audit monitoring is the Kestrel 4500 together with a tripod and Kestrel vane mount. The data log is ideal for use in the field, and wireless *Bluetooth*® data transfer capabilities makes log entries and report development a snap back in the office.



## VITICULTURE

Vineyard managers can monitor the weather right at the individual vine. In the spring and fall, knowing the temperature trends and dew point is critical to determining the need for frost protection. In the summer, being able to track solar radiation and sun exposure is key. Tracking conditions at potential vine locations can help you develop an accurate understanding of your property's microclimates and select the varietals and growing sites that will ensure success year after year.

## CROP HARVESTING

Keeping an eye on the current and developing environmental conditions can help farmers determine the best time to harvest. Whatever your crop, a Kestrel Weather & Environmental Meter makes it easy to monitor field conditions real-time to ensure selection of the ideal conditions for maximizing your harvest and crop quality.

## LIVESTOCK TEMPERATURE MONITORING

Heat stress can reduce productivity and even cause death in livestock. By using a Kestrel to monitor temperature and humidity, and referring to the heat index appropriate for their livestock, farmers can take appropriate cooling measures in time to prevent sickness and loss.

## GOLF COURSE MANAGEMENT & LANDSCAPING

The Kestrel is the perfect tool to get an accurate assessment of air movement, which is vital for healthy turf in areas where surface cooling is needed. Proper air movement reduces leaf wetness and decreases the likelihood of fungal diseases. A constant air movement of just 3 mph coupled with adequate soil moisture can reduce the need for pesticide use and keep turfs up to par.

## PREFERRED KESTREL MODELS



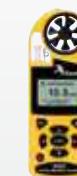
2000  
PAGE 40



3000  
PAGE 38



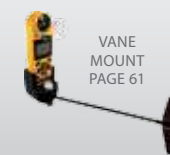
3500DT  
PAGE 49



4500  
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PC INTERFACE  
PAGE 60



VANE  
MOUNT  
PAGE 61





# FIREFIGHTING AND HAZMAT

*Firefighters and Hazmat professionals understand the importance of reliability and speed. Lives depend on these crucial elements. Kestrel has earned the trust of first responders around the world because Kestrel Meters are ready to take critical and accurate measurements FAST.*

## WILDLAND FIREFIGHTING

Wildland firefighters can replace their entire belt weather kit with a Kestrel Weather & Environmental Meter smaller than their radio. Thousands of Kestrel Meters are on the job around the world every fire season providing measurements crucial to fire behavior prediction, with industry-leading humidity accuracy.

## STRUCTURAL FIREFIGHTING

Safety demands accurate situational wind speed measurements BEFORE deploying ladders and aerial equipment, and a Kestrel in the glove box is just the answer. Where a wildland fire has the potential to threaten an urban interface, a Kestrel Meter can assist in assessing the fire weather and predicting fire behavior.

## SEARCH & RESCUE

The portability of a Kestrel Meter makes it ideal for measuring environmental conditions relevant to planning safe search and rescue operations and tracking parameters relevant to the safety and effectiveness of working dogs. Equipped with a Kestrel, rescue personnel on the ground can also provide important density altitude and wind readings to rescue aircraft, facilitating safe operations.

## FIRE & RESCUE TRAINING

First Responders must train for the conditions they will encounter. A Kestrel Meter offers an affordable way to ensure every squad can monitor and log WBGT, heat stress index, wet bulb temperature and other key parameters to avoid heat injury or death of personnel during hot weather training.

## HAZARDOUS MATERIALS RESPONSE

First Responders can gather the weather data they need within seconds of arriving at the scene with no tedious setup. A Kestrel 4600 with *Bluetooth®* data transfer and Portable Vane Mount make up a complete Hazmat weather kit capable of measuring all parameters required for CAMEO®/ALOHA® and PEAC® plume modeling; as well as monitoring heat stress parameters critical to protecting heavily clothed personel. Combining affordability with ease of use, it's possible to equip every department vehicle with a Kestrel response kit to enable all personnel to measure and record life-saving data whenever and wherever they deploy.

## EMT

With the accurate environmental information provided by a small, waterproof and tough Kestrel Meter, emergency medical personnel can measure and track conditions relating to heat stress and exposure, and issue guidelines and warnings for field personnel no matter what the conditions. Data logging capabilities document all historical data in the field, making incident report preparation a snap.

## PREFERRED KESTREL MODELS



3000  
PAGE 38



3500  
PAGE 37



4000  
PAGE 36



4500  
PAGE 35



4600  
PAGE 45

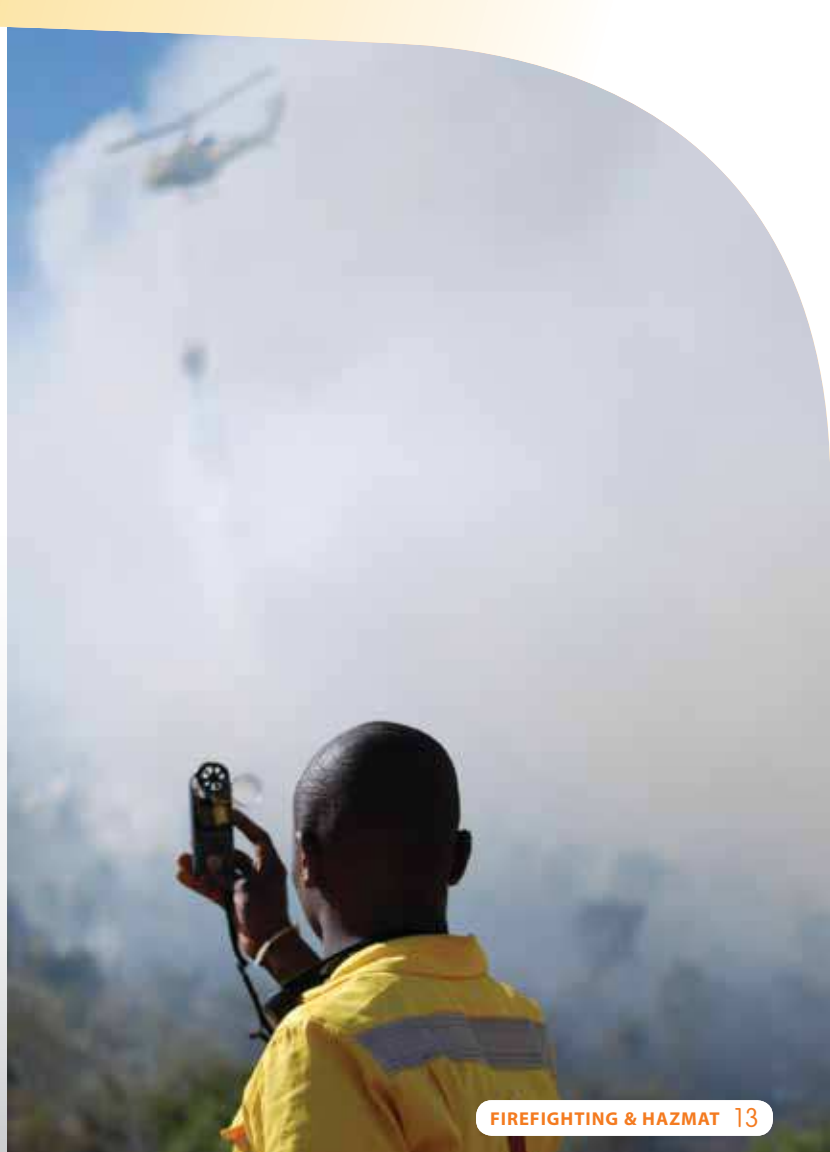


COMPACT TRIPOD  
PAGE 60

VANE MOUNT  
PAGE 61



PC INTERFACE  
PAGE 60







# HUNTING

*When the weather changes, so does your game. As a hunter, you're used to waiting – a Kestrel can help you be sure you're waiting in the right place at the right time. Barometric pressure and wind direction readings give you the ultimate advantage on your hunt.*

## ANIMAL BEHAVIOR

The wind speed affects how well animals can hear and smell, causing them to be less active as wind speeds increase. Temperature influences animals' comfort, restricting their activity if it's too cold or warm. For most game, activity levels will rise or fall along with the barometric pressure. A Kestrel Weather & Environmental Meter can track weather trends and give you current conditions to plan when and where to hunt.

## BOW HUNTING

The large side surface area of an arrow makes it far more subject to wind drift than other hunting projectiles. Even 5-10 MPH of crosswind requires wind compensation or arrow selection adjustment. The Kestrel calculates the exact crosswind with respect to a target direction – invaluable when practicing and learning how to read the wind.

## VARMINT HUNTING

Varmint activity is heavily influenced by wind, barometric pressure change and precipitation. As just one example, coyote activity can be counted on to increase with rising barometric pressure after a storm front has passed. Varmint hunting also demands long-range accuracy, requiring educated ballistics choices and skillful reading of the wind.

## BUSH PILOTING

Especially when flying in and out of remote locations, it's critical to know the weather. Safe operation of a small plane or helicopter requires accurate and up-to-the-minute local readings on air density and weather conditions. The Kestrel 4500 features a crosswind and headwind/tailwind calculator, too, making it the perfect companion for pilots landing in extreme conditions.

## FISHING

Figuring out when the fish will bite is easier when you know the weather. When pressure is rising or falling, fish activity will increase. Use your Kestrel to measure water temperature – simply submerge the waterproof unit and hit "hold" to save the temperature. Plus it's durable enough to toss into your tackle box at the end of the day.

## BRAGGING RIGHTS & SAFETY

While a Kestrel can't measure the points on your buck or record the one that got away, it can help you keep score on who has endured the coldest day sitting in the stand. More importantly, knowing the real weather conditions helps you choose the right clothing, plan your hydration needs and adequately prepare for your day in the field. Hunters succumb to frostbite, exposure and heat exhaustion every year – a Kestrel can keep you from joining them.

## PREFERRED KESTREL MODELS



2500  
PAGE 39



3500  
PAGE 37



4000  
PAGE 36



4500  
PAGE 35



HUNTER  
W/HORUS  
PAGE 52



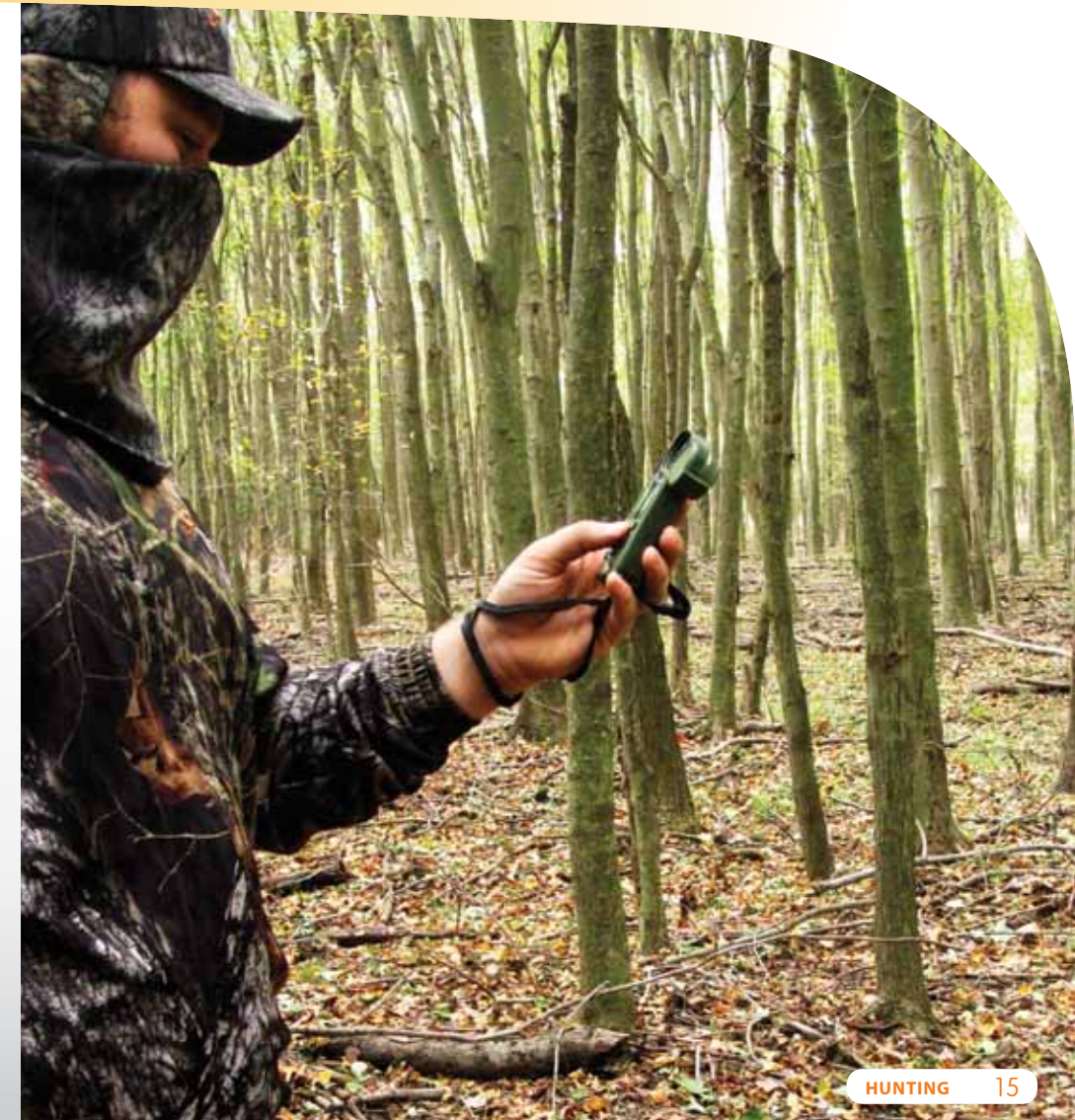
SHOOTER  
W/HORUS  
PAGE 51



SHOOTER  
W/APPLIED  
BALLISTICS  
PAGE 53



PC  
INTERFACE  
PAGE 60







# MILITARY & POLICE WORK

*You fearlessly serve and protect our communities. You consider this line of work more than a job – it's a duty. Kestrel Weather & Environmental Meters are on duty with our soldiers and police – enduring and performing right alongside them.*

## SNIPER TRAINING & OPERATIONS

Crosswind strongly influences the accuracy of sharpshooting, becoming the largest error component at long ranges. Even medium crosswind velocities (~5 m/sec) along the flight path of a bullet can cause 1 meter deviations at 500 meters. Temperature, humidity and density altitude also play a part in ballistics performance, and are incorporated into most advanced targeting calculators. The Kestrel Shooter's Weather Meter w/Horus' Ballistics, with its ability to accurately measure all of these parameters plus offer integrated aiming solutions in one four-ounce, pocket-size package, is on the military sniper's "most-wanted" list of desired equipment.

## DROP ZONE SAFETY

Every drop zone requires close monitoring of wind speeds by the DZSO. Featuring icon-based navigation to avoid language confusion, personnel can be taking accurate wind direction readings as soon as they reach the hilltop. The Kestrel 4500 adds the option to log readings with date and time stamp for later report preparation. Detailed ground weather reports from a four-ounce meter- that's effective pear.

## COMBAT WEATHER

Weather personnel in all forces have come to rely on the Kestrel 4000 or 4500 as a primary or backup meteorological instrument. Combat weathermen, in particular, find the Kestrel a critical tool in forward ground combat scenarios due to its extreme portability and virtually instant use.

## MEDIC SUPPORT, PERSONNEL HEAT STRESS & EXPOSURE MONITORING IN TRAINING & OPERATIONS

Extreme conditions of heat and cold are a fact of military life. Kestrel Meters accurately measure temperature, humidity, heat stress, wet bulb temperature, WBGT and wind chill, enabling good decision making about work/rest periods, clothing and hydration in both training and operations. For medics, automatic logging creates a reliable record of conditions for future report preparation. User-settable flags allow easy reference to command guidelines.

## K9 OPERATIONS – SEARCH & RESCUE, MINE REMOVAL

Effective and safe K9 operations require close monitoring of the wind speed, temperature and humidity conditions in the area where the dogs are working. Military K9 handlers carry a Kestrel in their pocket to enable them to know their conditions, wherever they are working with their dogs.

## EXPEDITIONARY FLIGHT OPERATIONS

The Kestrel 4000 and 4500 are complete weather systems ideal for forward basing or lake bed flight operations. Even where CWX personnel are not available, personnel on the ground equipped with a Kestrel Meter can provide critical landing zone weather data.



BLUE OCEAN RUGGED  
MEGAPHONE  
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## NBC & HAZMAT RESPONSE

Wind speed and direction, together with temperature, humidity and air density, all impact the behavior and spread of a nuclear, biological, chemical or hazardous material release. The Kestrel 4600 and 4500, together with a lightweight Tripod and Vane Mount, measure every parameter required for plume prediction plus allow instant wireless data transfer to plume modeling software.

## THERMAL IMAGING (FLIR) SYSTEMS

Relative humidity and ambient temperature affect the transmissivity of the air and impact the effectiveness of forward looking infrared cameras or thermal imaging systems. Kestrel meters offer a lightweight, on-the-spot solution for measuring these and other relevant conditions instantly and accurately.

## PREFERRED KESTREL MODELS



2500NV  
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3500NV  
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4000NV  
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4500NV  
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4600NV  
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SHOOTER  
W/HORUS  
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SHOOTER  
W/APPLIED  
BALLISTICS  
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PC INTERFACE  
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VANE MOUNT  
PAGE 61



# OUTDOOR

*Exploring the boundaries of nature can be exhilarating – and unpredictable. You push yourself to the limits and need equipment that can keep up with you – a rugged Kestrel Weather & Environmental Meter is your perfect companion.*

## SNOW SPORTS

Snow conditions can change by the minute. All Kestrel Meters feature an external temperature sensor making snow temperature measurement as simple as sticking the unit right into the snow pack. Set up a Kestrel 4500 to track conditions relating to snowmaking right where the equipment is operating. Equip ski patrol with a Kestrel to provide condition reports from all areas of the mountain.

## SAILING AND BOATING

The Kestrel is ideal as an on-board weather station for both large and small craft. Use a Kestrel 1000 to assess wind speeds and sail setup, or step all the way up to the Kestrel 4500 to monitor all weather conditions. Automatic data storage and on-screen barometric pressure trend graphs make it easy to track developing storms. Plus every Kestrel is completely waterproof and floats.

## HANG GLIDING, PARA-SPORTS AND BALLOONING

Hang gliding, paragliding, sky diving and ballooning all are influenced heavily by one thing – the wind. The large replaceable Kestrel impeller ensures accurate readings, and the waterproof case and slip-on cover ensure your investment will last for years.



## BACKPACKING, CAMPING, CLIMBING AND MOUNTAINEERING

If you've spent any time outdoors, you know that Mother Nature can be unpredictable and the weather can change at the drop of a hat. It's important to monitor the weather to ensure that you aren't caught unprepared. Kestrel Meters are ideal for just that – slip one in your pack and you have a weatherman on your trip with you. Barometric pressure and dewpoint help to predict weather trends and wind chill and heat stress index warn of dangerous conditions for long-term exposure.

## SEARCH & RESCUE AND AVALANCHE CONTROL

Avalanche and search & rescue teams need to quickly and accurately assess the conditions wherever they're working. A Kestrel Meter allows ground crews to report the density altitude and ground conditions to the rescue helicopters for safe evacuations. Working dog handlers can make use of Kestrel Meters to monitor the wind speed, temperature and humidity conditions and keep their dogs working safely and effectively.

## WIND SURFING AND KITE BOARDING

You need to know the wind speed right where you are wind surfing or kite boarding. Plus, the Kestrel 2000 and higher let you measure air and water temperature. The Kestrel plays as hard as you do – it's completely waterproof and floats, and has a sturdy slip-on cover.

## PADDLING

Avid paddlers like to know the wind speed and water temperature, and the Kestrel is the perfect tool. Paddle guides love to be able to answer their clients' questions about just how strong that wind is they're paddling into. Tie a 3-ounce Kestrel onto your life vest and know the facts wherever you paddle. Every Kestrel is compact, light and waterproof – there's no need to be a weather guesser.

## AVIATION

Whether you fly a private plane, small helicopter, ultralight or glider, it's critical to know the weather when taking off and landing. Pilots who fly into remote locations will particularly appreciate the Kestrel 4500 with crosswind, headwind, wind speed, wind direction, altitude, barometric pressure and density altitude readings.

## PREFERRED KESTREL MODELS



1000  
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2500  
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3500  
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4500  
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PC INTERFACE  
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VANE MOUNT  
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# PRECISION & COMPETITIVE SHOOTING

*Knowing your environmental conditions can mean the difference between a hit or a miss. The Kestrel instantly gives you crosswind, air pressure, temperature and humidity readings – all the critical conditions that affect the trajectory of a bullet. The Kestrel keeps you on target for your most accurate shot.*

## LONG RANGE & BENCHREST SHOOTING

Use a Kestrel 4500 to measure every environmental factor that impacts the accuracy of your shot. With its integrated digital compass and patented impeller, the 4500 measures wind speed and wind direction, and calculates crosswind and headwind with respect to the target. Serious shooters don't estimate - they use Kestrel.

## ARCHERY

Reading and compensating for the wind is critically important in competitive archery. The wind presses on the bow itself, and dramatically influences the flight direction and fall rate of the arrow. Accurate measurement of the wind during range practice is the best way for a competitive archer to develop his/her ability to compensate for wind in competition.

## RELOADING & BALLISTICS

Whether using a full-blown ballistics software application, or simply recording results of your own ballistics observations, accurate recording of wind speed, temperature, pressure, altitude and relative humidity is vitally important. Armed with a Kestrel 4500 with *Bluetooth*® data transfer, you can measure and store the environmental conditions for each shot you take. You can also enter required parameters into PC, PDA and smart phone ballistics calculators. Optional *Bluetooth*® data transfer enables direct upload into compatible applications.

## PREFERRED KESTREL MODELS



2000  
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3500  
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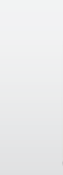
4000  
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4500  
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SHOOTER  
W/HORUS  
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SHOOTER  
W/APPLIED  
BALLISTICS  
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VANE MOUNT  
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VANE MOUNT  
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# RACING

*You're a weekend road warrior. All you need is your car, a track, the wind in your hair...and a Kestrel 4250 in your hand. Now that's a winning combo. You don't race at your trailer, why measure weather there? Even slight fluctuations in weather conditions can affect your car's performance. Let a Kestrel Weather & Environmental Meter help you with those last minute dial-in or tuning decisions.*

Minor changes in air density, water grains and density altitude can have a major effect on an engine's performance. The Kestrel 4250 Racing Weather & Environmental Meter arms racers with the ability to easily measure and track these and other critical factors, such as absolute pressure, temperature, humidity, wind speed and barometric pressure. The Kestrel also provides racers and pit crews with the most accurate and up-to-date data available where you need it most – at the track. It allows tuners to determine what last minute changes need to be made based on the current local conditions, even minutes before the first lap around the track or pass down the drag strip. *Bluetooth®* data transfer capabilities allow you to easily and wirelessly send track data right to a laptop for an instant log of all race day conditions. Get that competitive edge at a fraction of the cost of other systems on the market.

## PREFERRED KESTREL MODEL



4250  
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PC  
INTERFACE  
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COMPACT TRIPOD  
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VANE MOUNT  
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# RESEARCH & TECHNOLOGY

*Gathering information, exploring ideas and cultivating knowledge is the essence of learning. Kestrel Weather & Environmental Meters are an accurate, reliable tool to aid in studying the world around us.*

## CLASSROOM USE AND EDUCATION

Kestrel Meters have been in the classroom for years – they provide valuable data in life science classrooms, and are so durable that a one-time investment provides years of use. With global warming and increased storm activity in the media spotlight in recent years, schools are looking for ways to educate students about the weather. Lesson plan possibilities with a Kestrel are limitless; observe meteorological changes, monitor microclimates and manipulate and graph imported data. Accurate enough that teachers know kids are seeing real-world numbers that make sense, and tough enough to stand up to years of third graders; Kestrel Meters are the perfect classroom companion.

## WINDMILL AND WIND POWER GENERATION

The utilization of alternate energy sources, including residential and commercial wind turbines, requires measuring wind data prior to installation. A Kestrel Meter is the ideal tool for affordable and easy on-site measurements. Average wind speed is critical in determining the proper size and placement of the turbine. Particularly in hilly or mountainous regions where state-sponsored wind statistics aren't reliable, a Kestrel Meter provides accurate measurements right where it is employed.

## ACADEMIC RESEARCH

Whether in a classroom, laboratory or in the field, the most important component of research is accuracy. Researchers worldwide trust Kestrel Weather & Environmental Meters to give them reliable measurements for a diverse range of studies. From environmental conservation, marine and ocean research to cave research and scientific expeditions, the Kestrel Meter makes gathering real-time data simple. The Kestrel 4000 series with *Bluetooth*® data transfer makes documenting conditions and in-depth analysis simple with instant wireless capabilities in the field or in the lab.

## HORTICULTURE

Horticulturists study the delicate details of plant life and therefore require a precise, accurate tool for monitoring such complex life systems. Kestrel Weather & Environmental Meters can be used for research in plant cultivation and breeding, crop production, genetic engineering, plant biochemistry and plant physiology. Environmental stresses affect the health and behavior of plant life. Effectively monitor significant conditions that contribute to plant quality, crop yield, and insect and disease resistance, such as humidity, wind, dewpoint, altitude and more.

## SCIENTIFIC EXPEDITIONS

Scientific expeditions often lead researchers to extreme environments. Kestrel Weather Meters perform in the toughest of conditions at high accuracy. Our meters have traveled with researchers to mountaintops, remote jungles and glaciers. Barometric pressure and dewpoint help to predict weather trends while wind chill and heat stress index warn of dangerous conditions for long-term exposure. The Kestrel 4000's extensive memory and *Bluetooth*® data transfer capabilities are ideal for keeping logs or sending information back to camp. Stay prepared, stay safe and stay on course with a Kestrel Weather & Environmental Meter.

## PARANORMAL INVESTIGATIONS

When investigating activities unseen to the naked eye, only a Kestrel Meter can accurately detect the slightest fluctuations in the immediate environment. Paranormal investigators are concerned with monitoring sudden changes in conditions, such as wind, barometric pressure and temperature. Waterproof and extremely rugged, Kestrel Meters are as fearless of harsh environments as the ghost hunters who use them.

## PREFERRED KESTREL MODELS



2000  
PAGE 40



3500  
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4000  
PAGE 36



4500  
PAGE 35



PC  
INTERFACE  
PAGE 60



VANE MOUNT  
PAGE 61



COMPACT TRIPOD  
PAGE 60





A close-up photograph of a man in camouflage clothing and a cap, looking through the scope of a rifle. He is holding a Kestrel weather meter in his other hand. The background is a soft-focus outdoor scene.

# PRODUCTS

*Tools for Success*

## Kestrel Weather & Environmental Meters

### *Know Your Conditions*

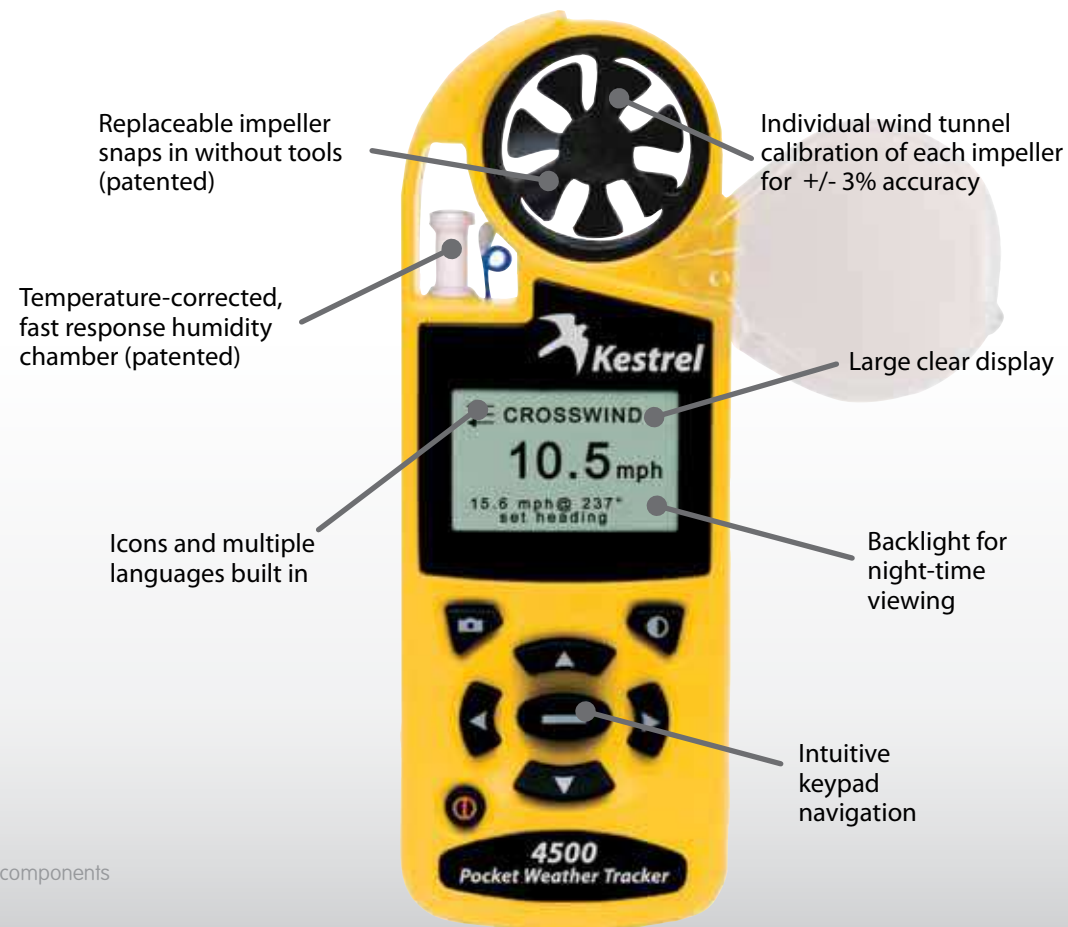
Whether you need just wind speed or a whole range of environmental measurements, there's a Kestrel model built to fit your needs and your budget. Kestrel Weather & Environmental Meters are relied upon by professionals who refuse to compromise accuracy or reliability. Know your conditions whenever and wherever you are – from the convenience of a simple, instantaneous wind reading to the power of advanced calculations such as crosswind and relative air density. Charting, data-logging and wireless *Bluetooth*® data transfer capabilities allow for in-depth analysis and solid record keeping. The ultimate in rugged portability, Kestrel Weather & Environmental Meters are designed and manufactured in the U.S.A. and backed by a 5-year warranty.

# WHAT MAKES A KESTREL

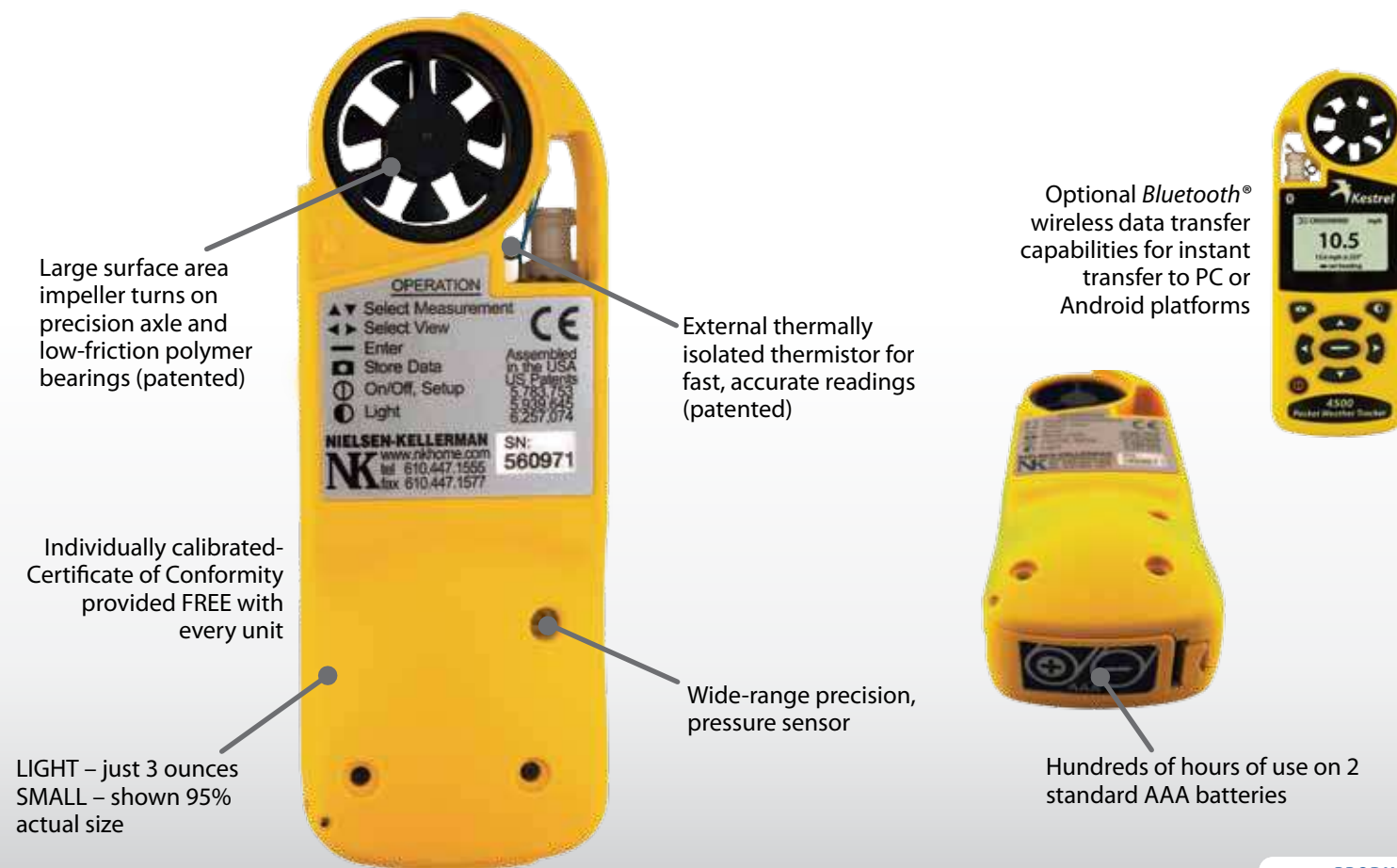


- Mil-STD-810G Drop-tested
- IP67 Waterproof
- 5-Year Warranty
- Made in the USA

\*Includes non- US components



# METER UNIQUE?





# WHAT CAN YOU MEASURE WITH A KESTREL METER?



**Wind Speed/Air Velocity:** The rate of the motion of air in a unit of time.



**Beaufort Wind Scale:** A system of estimating and reporting wind speeds based on the Beaufort Force or Number, which is composed of the wind speed, a descriptive term, and the visible effects upon land objects and/or sea surfaces.



**Volume Air Flow (CFM):** The volume of air moving through a given space over a unit of time. Calculated by multiplying the surface area of the opening times the air velocity.



**Wind Direction:** The direction from which the wind is blowing, expressed as a compass point or degrees. Bearing may be reported in true or magnetic.



**Cross Wind:** The component of the wind blowing at right angles to a given direction of travel, such as an aircraft or bullet's line of flight, calculated by multiplying the wind speed times the sine of the angle between the wind and the direction of travel.



**Head/Tailwind:** The component of the wind blowing against (headwind) or with (tailwind) a given direction of travel, such as an aircraft or bullet's line of flight, calculated by multiplying the wind speed times the cosine of the angle between the wind and the direction of travel.



**Wind Chill:** The temperature of windless air that would have the same effect on exposed human skin as a given combination of wind speed and air temperature. (NWS 2001 Wind Chill formula with adjusted wind speed.)



**Temperature (Air/Water/Snow):** Air temperature is the ambient temperature of the air and water vapor as measured by a thermometer or other measuring device in which the thermal element is dry and shielded from radiation. Water and snow temperature are measured with a measuring device in direct contact with the environment. Available units are Fahrenheit – a temperature scale where water at sea level has a freezing point of +32° F°, and a boiling point of +212° F; and Celsius – a temperature scale where water at sea level has a freezing point of 0° C and a boiling point of +100° C.



**Delta-T:** The spread between the wet bulb temperature and the dry bulb temperature (in degrees C). Delta-T offers a quick guide to determining acceptable spraying conditions or ideal spray nozzle.



**Heat Stress Index:** A measurement of the air temperature in relation to the relative humidity, used as an indicator of the perceived temperature.



**Relative Humidity:** The ratio of the amount of water vapor in the air at a specific temperature to the maximum amount that the air could hold at that temperature, expressed as a percentage. Relative humidity is a function of temperature and therefore changes as the temperature changes, even if the amount of moisture in the air remains constant.



**Dewpoint:** The temperature at which the water vapor in the atmosphere begins to condense. Any further cooling causes condensation (fog and dew). This is also the temperature of saturation.



**Wet Bulb:** The lowest temperature in the ambient atmosphere yielded by forcibly evaporating water from a wet muslin-covered bulb of a thermometer.



**Moisture Content | Humidity Ratio (Grains):** The ratio between the actual mass of water vapor present in moist air to the mass of the dry air. Expressed in grains per kilogram or grains per pound.



**Evaporation Rate:** The rate at which moisture is lost from a surface for a given humidity, temperature and wind speed. Evaporation rate is a critical environmental indicator that concrete contractors use to ensure they avoid plastic shrinkage cracks in concrete installations especially concrete flatwork.



**Barometric Pressure:** The atmospheric pressure of the weight of the air above the measurements point, reduced to sea level. Also known as mean sea level pressure.



**Absolute Pressure:** The actual measured pressure of the weight of air above the measurement point. Also called station pressure.



**Altitude:** The height of an object above mean sea level.



**Air Density:** The weight of a given volume of air.



**Density Altitude:** The equivalent altitude in the ICAO standard reference atmosphere for the measured temperature, relative humidity and air pressure. A measure used primarily by pilots, high-performance engine mechanics and long-range shooters.



**Relative Air Density:** The ratio of the calculated air density to the air density at sea level using the ICAO standard reference conditions.



**Wet Bulb Globe Temperature (WBGT):** WBGT is a composite measurement of naturally aspirated wet bulb, globe temperature and dry bulb temperature. This environmental temperature data combines temperature, humidity, wind speed and thermal radiation to access heat stress.



**Naturally Aspirated Wet Bulb:** Naturally aspirated wet shacked, bulb is the temperature of a wetted thermometer in equilibrium with temperature, humidity and the wind.



**Thermal Work Limit (TWL):** TWL uses environmental measurements, including thermal radiation, to predict work limits for people exposed to heat stress.



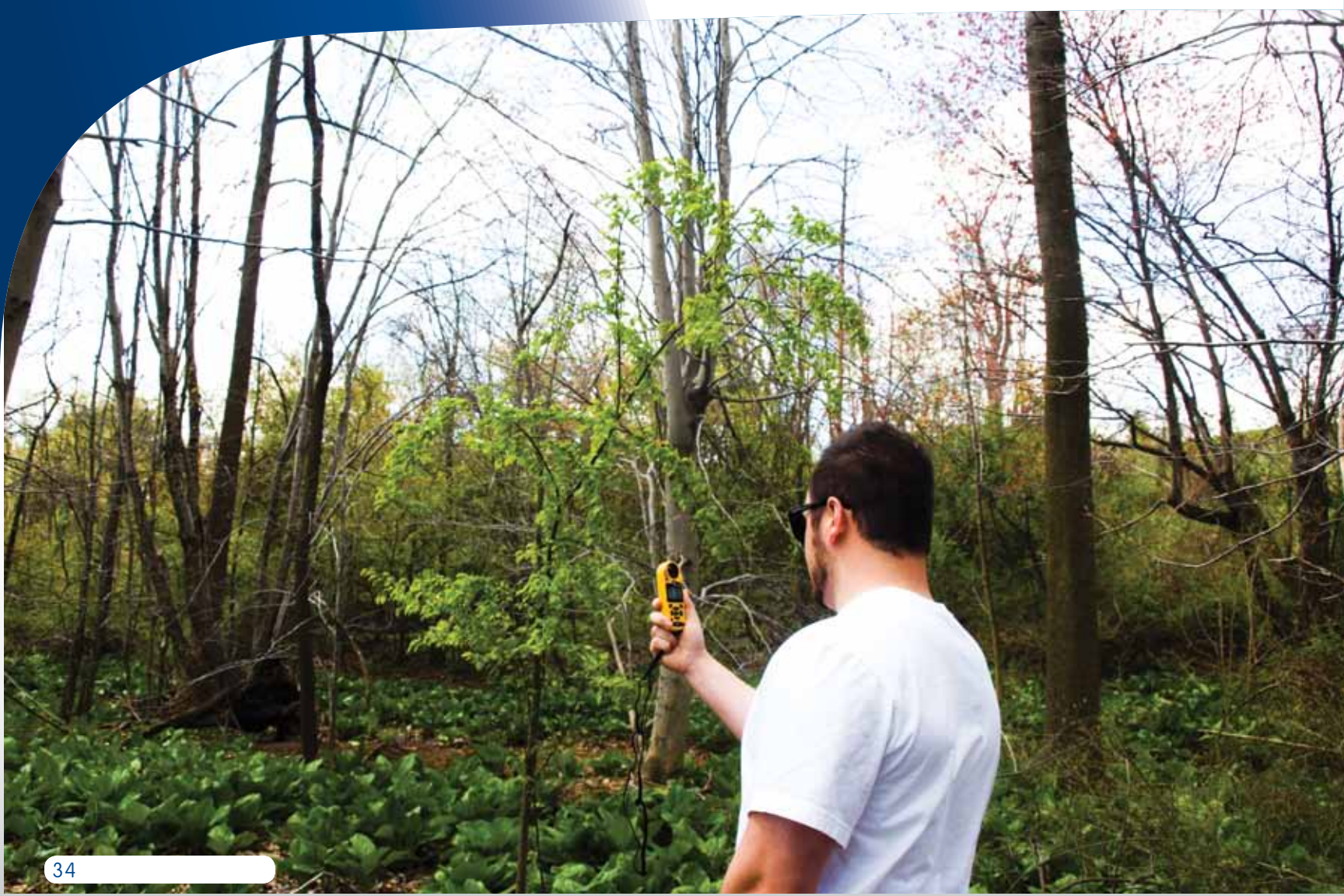
**Black Globe Temperature:** A measure of thermal radiation obtained using a thermometer inside of a 6" black copper globe. The 4400 and 4600 calculate the standard 6-inch globe temperature from a 1-inch globe.



★ **Hidden Function** - This feature turned off by default.  
NV = Tactical, night-vision preserving.

[illegible]





**When wind direction matters, the Kestrel 4500 delivers. Direction, speed and crosswind equals ready, aim, fire.**

*This Kestrel does it all. Measure every environmental condition plus wind direction and automatic crosswind calculation. Add in a vane mount and tripod and you have a compact, complete, portable weather station.*

**INCLUDES**

- Soft Carry Pouch
- Neck Lanyard
- Batteries – 2 AAA (average life 400 hours)
- Kestrel Certificate of Conformity

**ACCESSORIES**

- Kestrel Portable Vane Mount
- Tripod for Stationary Use
- Carrying Case
- Kestrel Computer Interface and Communicator Software
- Replacement Impeller
- RH Calibration Kit
- Dongle

		0845YEL	\$409
		0845BYEL	\$529
	NV	0845NVOLV	\$419
	NV	0845NVTAN	\$419
		0845BNVOLV	\$539
		0845BNVTAN	\$539

**FEATURES**

- Flip-Open Impeller Cover
- Digital Compass (True & Magnetic)
- Large Three-Line Graphical Display
- Backlight
- Wide Operating Range
- High Accuracy
- Patented Impeller and Sensor Technology
- No-Tools User-Replaceable Impeller
- Quick-Response External Temperature Sensor
- Temperature-Corrected Humidity Sensor
- Minimum and Maximum Values
- Wind Speed Average
- Clock & Calendar
- Customizable Automatic and Manual Data Logger (2900 Points)
- On-Screen Data Charting
- Data Upload
- 5 Languages (English, French, Spanish, German, Italian)
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

**MEASURES**

WIND SPEED | TEMPERATURE | WIND CHILL | RELATIVE HUMIDITY | HEAT STRESS INDEX | DEWPOINT TEMP | WET BULB TEMP | BAROMETRIC PRESSURE | ALTITUDE | DENSITY ALTITUDE | WIND DIRECTION | CROSSWIND | HEADWIND/TAILWIND



Knowing environmental conditions can be the difference between mission success or failure.

Wind speed, humidity, barometric pressure and density altitude plus logging capabilities make the Kestrel 4000 the indispensable tool for portable weather monitoring.



FEATURES

- Flip-Open Impeller Cover
- Large Three-Line Graphical Display
- Backlight
- Wide Operating Range
- High Accuracy
- Patented Impeller and Sensor Technology
- No-Tools User-Replaceable Impeller
- Quick-Response External Temperature Sensor
- Temperature-Corrected Humidity Sensor
- Minimum and Maximum Values
- Wind Speed Average
- Clock & Calendar
- Customizable Automatic and Manual Data logger (4000 Points)
- On-Screen Data Charting
- Data Upload
- 5 Languages (English, French, Spanish, German, Italian)
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

INCLUDES

- Soft Carry Pouch
- Neck Lanyard
- Batteries - 2 AAA (average life 400 hours)
- Kestrel Certificate of Conformity

ACCESSORIES

- Kestrel Portable Vane Mount
- Tripod for Stationary Use
- Carrying Case
- Kestrel Computer Interface and Communicator Software
- Replacement Impeller
- RH Calibration Kit
- Dongle

		0840GRY	\$339
		0840ORG	\$339
		0840BGRY	\$459
		0840BORG	\$459
	NV	0840NVOLV	\$359
	NV	0840NVTAN	\$359
	NV	0840BNVOLV	\$479
	NV	0840BNVTAN	\$479

MEASURES

WIND SPEED | TEMPERATURE | WIND CHILL | RELATIVE HUMIDITY |  
HEAT STRESS INDEX | DEWPOINT TEMP | WET BULB TEMP | BAROMETRIC PRESSURE |  
ALTITUDE | DENSITY ALTITUDE



Split second decisions in the field leave no time for guesswork. Get every environmental condition in seconds.



Quickly changing weather conditions require constant, immediate updates. Measure wind speed, temperature, relative humidity, dew point and wet bulb temperature with ONE instrument. You don't need to log it, you just need to know it. At the press of a button, get all the relevant conditions you need to enable yourself to shift strategies, reduce risk and ensure safety.

INCLUDES

- Neck Lanyard
- Slide-on Cover
- CR2032 Coin Cell Battery (average life 300 hours)
- Kestrel Certificate of Conformity

ACCESSORIES

- Kestrel Portable Vane Mount
- Tripod for Stationary Use
- Carrying Case
- Replacement Impeller
- RH Calibration Kit

		0835	\$259
	NV	0835NVOLV	\$269

MEASURES

WIND SPEED | MAX WIND GUST | AVERAGE WIND SPEED | TEMPERATURE | WIND CHILL |  
RELATIVE HUMIDITY | HEAT STRESS INDEX | DEWPOINT TEMP |  
WET BULB TEMP | ALTITUDE | BAROMETRIC PRESSURE

FEATURES

- Sure-Grip Protective Cover
- Backlight
- Wide Operating Range
- High Accuracy
- Patented Impeller and Sensor Technology
- No-Tools User-Replaceable Impeller
- Quick-Response External Temperature Sensor
- Temperature-Corrected Humidity Sensor
- Minimum and Maximum Values
- Wind Speed Average
- Hold Function
- Clock
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty





When health and safety are on the line, perception is not reality. The Kestrel 3000 gives you real conditions in real time.

Professional and collegiate athletic trainers, storm chasers and wildland firefighters alike understand the importance of monitoring field conditions. You know you're working hard – make sure you're staying safe. The Kestrel 3000 keeps you from working past your limits.



INCLUDES


- Neck Lanyard
- Slide-on Cover
- CR2032 Coin Cell Battery (average life 300 hours)
- Kestrel Certificate of Conformity

ACCESSORIES

- Kestrel Portable Vane Mount
- Tripod for Stationary Use
- Carrying Case
- Replacement Impeller
- RH Calibration Kit

FEATURES

- Sure-Grip Protective Cover
- Large Three-Line Graphical Display
- Backlight
- Wide Operating Range
- High Accuracy
- Patented Impeller and Sensor Technology
- No-Tools User-Replaceable Impeller
- Quick-Response External Temperature Sensor
- Temperature-Corrected Humidity Sensor
- Maximum Gust Capture
- Wind Speed Average
- Hold Function
- Clock
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

	0830	\$199
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MEASURES

WIND SPEED | MAX WIND GUST | AVERAGE WIND SPEED | TEMPERATURE | WIND CHILL |  
RELATIVE HUMIDITY | HEAT STRESS INDEX | DEWPOINT TEMP



Nature can turn on you at a moment's notice. Predict what's headed your way with the Kestrel 2500.

Predict when bad weather is headed your way with the three-hour pressure trend indicator. The perfect instrument for any outdoor activity – get conditions in seconds right in the palm of your hand.



INCLUDES

- Neck Lanyard
- Slide-on Cover
- CR2032 Coin Cell Battery (average life 300 hours)
- Kestrel Certificate of Conformity

ACCESSORIES

- Kestrel Portable Vane Mount
- Tripod for Stationary Use
- Carrying Case
- Replacement Impeller

	0825	\$199
NV 	0825NVOLV	\$209

MEASURES

WIND SPEED | MAX WIND GUST | AVERAGE WIND SPEED | TEMPERATURE | WIND CHILL |  
BAROMETRIC PRESSURE | ALTITUDE

FEATURES

- Sure-Grip Protective Cover
- Backlight
- Wide Operating Range
- High Accuracy
- Patented Impeller and Sensor Technology
- No-Tools User-Replaceable Impeller
- Quick-Response External Temperature Sensor
- Maximum Gust Capture
- Wind Speed Average
- Hold Function
- Clock
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

You're out in extreme temperatures.  
Guessing the conditions  
isn't good enough.

The Kestrel thermistor is located outside the case to ensure accurate measurement of temperature. Forget speculating, know exactly what the conditions are with the Kestrel 2000.



INCLUDES

- Neck Lanyard
- Slide-on Cover
- CR2032 Coin Cell Battery (average life 300 hours)
- Kestrel Certificate of Conformity

ACCESSORIES

- Kestrel Portable Vane Mount
- Tripod for Stationary Use
- Carrying Case
- Replacement Impeller

FEATURES

- Sure-Grip Protective Cover
- Backlight
- Wide Operating Range
- High Accuracy
- Patented Impeller and Sensor Technology
- No-Tools User-Replaceable Impeller
- Quick-Response External Temperature Sensor
- Maximum Gust Capture
- Wind Speed Average
- Hold Function
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

<div></div>	0820	\$129
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MEASURES

WIND SPEED | MAX WIND GUST | AVERAGE WIND SPEED |  
TEMPERATURE | WIND CHILL



You want wind measurement.  
You need accuracy.

Measuring wind is a breeze with the Kestrel 1000. Get wind information you can count on with a simple, reliable and accurate pocket wind meter.



INCLUDES

- Neck Lanyard
- Slide-on Cover
- CR2032 Coin Cell Battery (average life 300 hours)
- Kestrel Certificate of Conformity

ACCESSORIES

- Kestrel Portable Vane Mount
- Tripod for Stationary Use
- Carrying Case
- Replacement Impeller

FEATURES

- Sure-Grip Protective Cover
- Wide Operating Range
- High Accuracy
- Patented Impeller and Sensor Technology
- No-Tools User-Replaceable Impeller
- Quick-Response External Temperature Sensor
- Maximum Gust Capture
- Wind Speed Average
- Hold Function
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

<div></div>	0810	\$99
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MEASURES

WIND SPEED | MAX WIND GUST | AVERAGE WIND SPEED



## Specialty Kestrel Pocket Weather Meters

Our line of Specialty Kestrel models were each specifically designed to match the needs of a particular industry. Specialty Kestrels generate automatic calculations that were previously unavailable or cumbersome to obtain. We listened to exactly what you needed and delivered on your requests while maintaining the exceptional quality you count on.



When conditions are hot, stay one step ahead of heat stress.

Human heat stress results from a combination of many environmental factors – air temperature and humidity along with radiant heat from the sun and surfaces, balanced by the cooling effect of breezes or air flow. The Kestrel 4400 Heat Stress Tracker employs the most common composite measurement used to determine appropriate exposure to heat stress conditions — Wet Bulb Globe Temperature (WBGT).



INCLUDES

- Belt Carry Case
- Kestrel Portable Vane Mount
- Neck Lanyard
- Batteries – 2 AAA (average life 400 hours)
- Kestrel Certificate of Conformity

ACCESSORIES

- Tripod for Stationary Use
- Kestrel Computer Interface and Communicator Software
- Replacement Impeller
- RH Calibration Kit
- Dongle

		0844	\$799
		0844B	\$919
	NV	0844NVOLV	\$809
	NV	0844NVTAN	\$809
	NV	0844BNVOLV	\$929
	NV	0844BNVTAN	\$929

FEATURES

- 1" Black Globe
- User-settable WBGT warning zones
- Large Three-Line Graphical Display
- Backlight
- Wide Operating Range
- High Accuracy
- Patented Impeller and Sensor Technology
- No-Tools User-Replaceable Impeller
- Quick-Response External Temperature Sensor
- Temperature-Corrected Humidity Sensor
- Minimum and Maximum Values
- Wind Speed Average
- Clock & Calendar Customizable Automatic and Manual Data Logger (2300 points)
- On-Screen Data Charting
- Data Upload
- 5 Languages (English, French, Spanish, German, Italian)
- Flip-Open Impeller Cover
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA

MEASURES

WIND SPEED | TEMPERATURE | WIND CHILL | RELATIVE HUMIDITY | HEAT STRESS INDEX | DEWPOINT TEMP | WET BULB TEMP | BAROMETRIC PRESSURE | ALTITUDE | DENSITY ALTITUDE | WET BULB GLOBE TEMP | THERMAL WORK LIMIT | NATURALLY ASPIRATED WET BULB TEMP | GLOBE TEMP



Carry one tool — Get all the functions you need.

The Kestrel 4600 Heat Stress Tracker provides two vital functions in one unit. Determine appropriate exposure to heat stress conditions for occupations with heavy gear requirements, such as HAZMAT response and firefighting, AND utilize wind speed and direction for plume prediction and modeling. Carry less equipment and get more accomplished quickly in emergency situations!



INCLUDES

- Belt Carry Case
- Kestrel Portable Vane Mount
- Neck Lanyard
- Batteries – 2 AAA (average life 400 hours)
- Kestrel Certificate of Conformity

ACCESSORIES

- Tripod for Stationary Use
- Kestrel Computer Interface and Communicator Software
- Replacement Impeller
- RH Calibration Kit
- Dongle

		0846	\$869
		0846B	\$989
	NV	0846NVOLV	\$879
	NV	0846NVTAN	\$879
	NV	0846BNVOLV	\$999
	NV	0846BNVTAN	\$999

FEATURES

- 1" Black Globe
- User-settable WBGT warning zones
- Digital Compass
- Large Three-Line Graphical Display
- Backlight
- Wide Operating Range
- High Accuracy
- Patented Impeller and Sensor Technology
- No-Tools User-Replaceable Impeller
- Quick-Response External Temperature Sensor
- Temperature-Corrected Humidity Sensor
- Minimum and Maximum Values
- Wind Speed Average
- Clock & Calendar Customizable Automatic and Manual Data Logger
- On-Screen Data Charting
- Data Upload
- 5 Languages (English, French, Spanish, German, Italian)
- Flip-Open Impeller Cover
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

MEASURES

WIND SPEED | TEMPERATURE | WIND CHILL | RELATIVE HUMIDITY | HEAT STRESS INDEX | DEWPOINT TEMP | WET BULB TEMP | BAROMETRIC PRESSURE | ALTITUDE | DENSITY ALTITUDE | WIND DIRECTION | CROSSWIND | HEADWIND/TAIWIND | WET BULB GLOBE TEMP | THERMAL WORK LIMIT | NATURALLY ASPIRATED WET BULB TEMP | GLOBE TEMP



Concrete cracking costs you money and reputation. Stop it before it starts.

Using the Kestrel 4300 alerts you to conditions in real-time, using the actual environmental conditions on your job site during your pour. No more guessing or using inaccurate weather data from miles away PLUS no more struggling through ACI's complex evaporation rate calculations by hand!



INCLUDES

- Soft Carry Pouch
- Neck Lanyard
- Batteries – 2 AAA (average life 400 hours)
- Kestrel Certificate of Conformity

ACCESSORIES

- Kestrel Portable Vane Mount
- Tripod for Stationary Use
- Carrying Case
- Kestrel Computer Interface and Communicator Software
- Replacement Impeller
- RH Calibration Kit
- Dongle

	0843	\$349
	0843B	\$469

MEASURES

EVAPORATION RATE | WIND SPEED | TEMPERATURE | WIND CHILL | RELATIVE HUMIDITY | HEAT STRESS INDEX | DEWPOINT TEMP | WET BULB TEMP | BAROMETRIC PRESSURE | ALTITUDE | DENSITY ALTITUDE



You don't race at your trailer... why measure weather there?

Make those last minute dial-in or tuning decisions count with the Kestrel 4250. Measure weather where it really matters - at the track. Get water grains, air density, relative air density, absolute pressure, and true density altitude at a fraction of the cost, size and complexity of other weather stations.



INCLUDES

- Soft Carry Pouch
- Neck Lanyard
- Batteries - 2 AAA (average life 400 hours)
- Kestrel Certificate of Conformity

ACCESSORIES

- Kestrel Portable Vane Mount
- Tripod for Stationary Use
- Carrying Case
- Kestrel Computer Interface and Communicator Software
- Replacement Impeller
- RH Calibration Kit
- Dongle

	0842R	\$349
	0842RB	\$469

MEASURES

WIND SPEED | TEMPERATURE | ALTITUDE | DENSITY ALTITUDE | RELATIVE AIR DENSITY | MOISTURE CONTENT/GRAINS | HUMIDITY | AIR DENSITY | STATION PRESSURE | DEWPOINT TEMP | BAROMETRIC PRESSURE

FEATURES

- Large Three-Line Graphical Display
- Backlight
- Wide Operating Range
- High Accuracy
- Patented Impeller and Sensor Technology
- No-Tools User-Replaceable Impeller
- Quick-Response External Temperature Sensor
- Temperature-Corrected Humidity Sensor
- Minimum and Maximum Values
- Wind Speed Average
- Clock & Calendar
- Customizable Automatic and Manual Data Logger (3600 Points)
- On-Screen Data Charting
- Data Upload
- 5 Languages (English, French, Spanish, German, Italian)
- Flip-Open Impeller Cover
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

\* Requires IR or other thermometer for concrete temperature.



Measure CFM without a calculator.  
Do your job with one less step.

The Kestrel 4200 gives you immediate and accurate readings of volume air flow, wet bulb temperature and humidity ratio. Enter the duct shape and dimensions, hold the Kestrel in the air flow and the volume air flow readings are displayed right on the screen.




INCLUDES

- Soft Carry Pouch
- Neck Lanyard
- Batteries – 2 AAA (average life 400 hours)
- Kestrel Certificate of Conformity

ACCESSORIES

- Kestrel Portable Vane Mount
- Tripod for Stationary Use
- Carrying Case
- Kestrel Computer Interface and Communicator Software
- Replacement Impeller
- RH Calibration Kit
- Dongle

	0842	\$349
 	0842B	\$469

MEASURES

WIND SPEED | AIR VELOCITY | VOLUME AIR FLOW | TEMPERATURE | WIND CHILL |  
RELATIVE HUMIDITY | DEWPOINT TEMP | WET BULB TEMP | HUMIDITY RATIO |  
BAROMETRIC PRESSURE | ALTITUDE | DENSITY ALTITUDE | HEAT STRESS INDEX



Delta T. One easy number to spray safe.  
Measure once, spray once.

Minimize waste and maximize safety with the Kestrel 3500 Delta T. Delta T allows you to accurately assess acceptable spraying conditions to ensure you're within guidelines and help you select the right spray nozzle. (Delta T is the difference between wet bulb and dry bulb temperatures. It's an accurate predictor of chemical evaporation rates.)




INCLUDES

- Neck Lanyard
- Slide-on Cover
- CR2032 Coin Cell Battery (average life 300 hours)
- Kestrel Certificate of Conformity

ACCESSORIES

- Kestrel Portable Vane Mount
- Tripod for Stationary Use
- Carrying Case
- Replacement Impeller
- RH Calibration Kit

	0835DT	\$269
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MEASURES

WIND SPEED | MAX WIND GUST | AVERAGE WIND SPEED | TEMPERATURE | WIND CHILL |  
RELATIVE HUMIDITY | HEAT STRESS INDEX | DEWPOINT TEMP | WET BULB TEMP |  
BAROMETRIC PRESSURE | ALTITUDE | DELTA-T

FEATURES

- Sure-Grip Protective Cover
- Backlight
- Wide Operating Range
- High Accuracy
- Patented Impeller and Sensor Technology
- No-Tools User-Replaceable Impeller
- Quick-Response External Temperature Sensor
- Temperature-Corrected Humidity Sensor
- Minimum and Maximum Values
- Wind Speed Average
- Hold Function
- Clock
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty





## Kestrel Shooter's Weather Meter with Horus® Ballistics

Make your first shot even under extreme conditions.







*The first lightweight, handheld tool to give you both comprehensive environmental data plus integrated aiming solutions. Streamline your mission with the combined capabilities of instant, accurate environmental readings along with ballistics algorithms and calculating power equivalent to a ruggedized PDA – all in one unit!*

### INCLUDES

- Soft Carry Pouch
- Neck Lanyard
- Batteries - 2 AAA (average life 400 hours)
- Kestrel Certificate of Conformity

### ACCESSORIES

- Kestrel Portable Vane Mount
- Tripod for Stationary Use
- Tactical Carry Case
- Replacement Impeller
- RH Calibration Kit
- Dongle

NV		0845HOLV	\$619
NV		0845HTAN	\$619
 NV		0845HBOLV	\$739
 NV		0845HBTAN	\$739

## FEATURES

- **Integrated Horus Ballistics targeting solutions.** All the power of Horus Atrag®, without the PDA.
- **Customize up to five targets** for location, distance, direction, declination and winds.
- **Create, select and store** multiple guns and rounds with full ballistics characteristics.
- **IP67 waterproof and MIL-STD-810F rugged** for durability in extreme environments.
- **Optional integrated Bluetooth® data transfer** capabilities to wirelessly download weapon and round libraries as well as upload environmental parameters to other compatible ballistics applications.
- **Built-in digital compass** for target bearing and wind direction.
- **Two AAA batteries** offer hundreds of hours of use plus the convenience of swapping batteries right in the field.
- **All the environmental measurements, storage and charting** capabilities of the Kestrel 4500.



# NEW PRODUCTS

## ► Kestrel Hunter's Weather Meter with Horus® Ballistics

When the weather changes, so does your game. The easy-to-use Kestrel Hunter's Weather Meter offers Horus® Ballistics for accurate targeting solutions, lunar/solar reference tables and complete accurate weather conditions critical to predicting game behavior and verifying hunt conditions.

- Attain extreme aiming accuracy and game predictability.
- Manually input up to 9 customizable guns.
- Measure 15 environmental conditions at your fingertips, including temperature, barometric pressure, wind speed and direction – giving you the ultimate hunting solution.
- Plan your hunt using the Lunar Phase Predictor.



### MEASURES

WIND SPEED/AIR VELOCITY | TEMPERATURE | WIND CHILL |  
RELATIVE HUMIDITY | HEAT STRESS INDEX | DEWPOINT TEMP | WET BULB TEMP |  
BAROMETRIC PRESSURE | ALTITUDE | DENSITY ALTITUDE | WIND DIRECTION |  
CROSSWIND | HEADWIND/TAIWIND | PRESSURE TREND

# COMING SPRING 2013



**Kestrel is pleased to partner with Applied Ballistics, LLC, to offer a Kestrel Shooter's Weather Meter with their well-regarded ballistics calculator built in.**

- Calculate accurate fire control solutions for long-range rifle shooting.
- Select either G1 or G7 ballistic coefficient when calculating elevation.
- Get ballistic coefficient data for more than 225 long range bullets.
- Measure up to 15 environmental parameters at your fingertips.
- "Train" the software to match your specific rifle based on observed results.





## Kestrel NV:

*As Rugged as the Environment.  
As Stealthy as the Mission.*

Due to overwhelming demand from our military customers, the Kestrel NV line was born. Military personnel and pilots flying in darkness are often concerned with preserving their night vision and secure position. The NV model has the same features as its more colorful counterparts, but is olive drab or desert tan (4000, 4400, 4500, and 4600 models only) with a reduced brightness red-toned backlight that helps protect the user's adapted night vision. (It takes 30 to 45 minutes for the average eye to adapt to darkness and maximize night vision. Even a short burst of white, yellow, green or blue light "bleaches out" the rod cell photoreceptors in the eye and causes night blindness until the entire adaptation process can take place again.) The dim backlight is also much more difficult to detect with the naked eye in night or covert operations.

(The NV backlight appears soft greyish pink, and is still in the visible spectrum, so it is not compatible with night-vision equipment.)



## Bluetooth® Wireless Data Transfer

*Instant Weather Data to any Bluetooth® Device*

Kestrel meters with integrated *Bluetooth®* wireless data transfer offer the ultimate in portable and accurate environmental data.

Now, both real-time and logged data can be transferred wirelessly and automatically, making a Kestrel 4000 series weather meter the perfect tool for virtually any job that requires quick and reliable weather data – *Bluetooth®* data transfer technology eliminates the need for a separate interface and cabling.

*Bluetooth®* data transfer is available throughout the entire Kestrel 4000 series, including specialty Kestrel units.







## Your job demands a powerful voice... and a megaphone that won't quit.

*When you're in charge of safety and security, you need to be heard loud and clear. Command attention with a powerful megaphone that's built tough to endure any environmental conditions or job-related hazard. The Blue Ocean Rugged Megaphone offers unique features and rugged durability not seen in other megaphones. The rechargeable battery gives you long-lasting power while eliminating the cost, hassle and environmental impact of replacing multiple C or D cells. Sturdy, waterproof design maximizes resistance against water damage, cracking and corrosion. And it floats!*



Blue  
0100BLUE  
\$495



Olive Drab  
0100MIL  
\$495

### INCLUDES

Rechargeable Battery Pack  
Battery Charging Station  
Detachable Carry Strap  
Protective Bumper

### ACCESSORIES

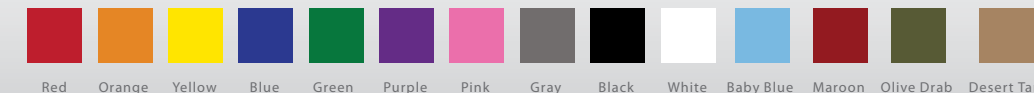
Microphone  
Compact Tripod  
Protective Bumper in Choice of Color

## FEATURES

- **Waterproof and floats.** Built tough to stand up to the harsh demands of the any environment.
- **Wrap-around handle design** maximizes drop resistance and durability and makes it easier to hold and carry.
- **Digital audio amplification** for exceptional clarity volume and power efficiency.
- **Convenient hands-free operation** with optional microphone.
- **Rechargeable, removable battery** – forget the hassle, cost and environmental impact of buying C or D cells!
- **Lithium-ion (Li-ion) battery pack** provides up to 6 hours of use while still being lightweight and compact. Carry an extra battery in your pocket and talk all day.
- **Built-in foghorn and siren.**

Personalize your megaphone with a protective bumper:

0119 Bumper \$5.00





# EXTRAS

*Your Tools*



## Maximize your monitoring capabilities.

The ultimate in portability - your Kestrel Weather & Environmental Meter goes wherever you go. Maximize your weather monitoring capabilities with the right accessories. Clip the Kestrel on to your belt, easily set up a compact complete weather station for constant data collection or wirelessly upload information to your computer. Kestrel accessories make this handheld weather device fully field-deployable.



**Mini Tripod**  
**0807**  
**\$25.00**  
Clamp any Kestrel into this sturdy but lightweight tripod to hold it upright for taking readings in the field. Ultra-compact and portable, it folds to just 7.5" and weighs 4.8 oz.



**Kestrel PC Interface & Software**  
**0804SER**  
**0804USB**  
**\$99.00**  
The Kestrel® Interface is the ideal companion to any model in the Kestrel 4000 family. Upload data to your computer for long-term storage, in-depth analysis and detailed charting.



**Kestrel Tripod Clamp**  
**0793**  
**\$14.00**  
Holds any model Kestrel. Attaches to any standard tripod.



**Collapsible Compact Tripod**  
**0792**  
**\$89.00**  
Use the Kestrel friendly clamp (also available separately) to accommodate any Kestrel model. Or remove the clamp to attach the Vane Mount. Weighing only 1.7 pounds and collapsing to a compact 14 inches high, this tripod is the perfect companion on any trip!



**Replacement Impeller**  
**0801**  
**\$19.00**  
Unique and patented to Kestrel. Large blade area and precision axle and bearings for whisper accuracy. Individually calibrated in our NIST traceable wind tunnel. Pops into place without tools.



**Kensington Bluetooth® Dongle**  
**0790**  
**\$29.00**  
Enables wireless communication for PCs without Bluetooth capabilities. Plug into any available USB port on your PC and instantly send and receive data wirelessly.



**Silva Polaris Compass**  
**0808**  
**\$18.00**  
This compass has 2" graduation lines as well as large numerals at every 20° mark, and its clear base plate makes it easy to read a map and set bearings.



**Kestrel Portable Vane Mount**  
**0791**  
**\$69.00**  
Assembles in seconds and the precision pivot and lightweight vane extension allows the unit to spin freely in the slightest of breezes. Paired with the Kestrel's 1400+ data-point memory log, extensive data can be collected including wind speed and direction.



**Tactical Kestrel Carry Case**  
**0806TAN**  
**0806BLK**  
**0806OLV**  
**0806CAM**  
**\$39.00**  
Manufactured exclusively for NK in the USA, this case is MOLLE/PALS compatible. Available in Black, Coyote Tan, Ranger Green and Multicam.



**Kestrel 4000 Screen Protector Kit**  
**0794**  
**\$10.00**  
Kestrel screen protector kit for the Kestrel 4000 series includes two durable plastic screen protectors, cleaning cloth and kit pouch for protective storage.



**Nitelze Kestrel 4000 Carry Case**  
**0805**  
**\$19.00**  
Slip your Kestrel in this sturdy padded nylon case and carry it on your belt or pack strap with ease. An elastic battery loop inside securely holds two backup AAA batteries. (Black only)



**RH Calibration Kit**  
**0802**  
**\$89.00**  
The RH calibration kit includes items necessary to maintain a stable environment while performing field calibration of one or more Kestrel units. Reusable for dozens of calibrations or verifications.





NIST-TRACEABLE ACCURACY

Each Weather Meter and wind impeller is individually tested and calibrated for every single measured value before it leaves our factory. Wind impellers are tested in our wind-tunnel at low and high speed and their startup speed is verified. Relative humidity models receives a two-point calibration in humidity and temperature controlled chambers monitored by a highly accurate dewpoint hygrometer. Temperature and pressure are both verified against calibrated standards. Each of our primary standards used in calibration is traceable to the National Institute of Standards and Technology (NIST). Our primary Calibration Standards are sent for calibration on a regular schedule, and only approved laboratories and NIST themselves are used for calibration. Every Kestrel includes a free Certificate of Conformity detailing our testing procedures and specifications.

CALIBRATION SERVICES

We offer multiple levels of calibration services to meet your needs. With our most affordable basic calibration, we repeat every calibration step used when your Kestrel was manufactured and reissue your unit's Certificate of Conformity. We can provide NIST-traceable Calibration Services with full documentation of as-found and as-left values as well as verification at customer-designated points. We even offer "tune-up" services including replacement impellers and batteries.

ACCURACY GUARANTEE

We guarantee that your Kestrel Meter will perform within specifications when you receive it. If you believe your Kestrel is not meeting specifications when you receive it, call us and we'll help you troubleshoot over the phone. If it still appears that it may be out of specification, return your Kestrel to us within 30 days of purchase and we will test and recalibrate all values at no charge and reissue your Certificate of Conformity.

CUSTOMIZE YOUR KESTREL

NK features a branding and customization program for Kestrels Meters, allowing you to create a unique and high-value sales tool or customer incentive. Options include: case color; custom window with your company's logo; custom pad print a message or logo with two spot colors on the lower front case; custom Kestrel logo cover; custom-labeled cover; custom product packaging label; and custom product instructions. Please contact NK to learn more about our customization options.

CUSTOMER LOYALTY PROGRAM

NK wants you to be a Kestrel customer for life, so we take care of you even beyond the terms of the above warranty with our Customer Care Program. Trade-in any Kestrel Meter, no matter the age or condition or how it was damaged, and receive a discount on a replacement product. Your trade-in discount applies to the same or higher model. Your trade-in must be surrendered to receive the discount and cannot be retained for parts or attempted salvage. Check our website for trade-in values of each model.

NK SUPPORTS YOU

Get answers to your any and all of your Kestrel questions when you need them. Kestrel Weather & Environmental Meters are backed by a full five-year warranty. Even after our industry-leading warranty expires, each Kestrel is covered by our Trade-In/Trade-Up Customer Care program. Go to NKhome.com for full service support. You can register your Kestrel, download the latest version of software, purchase tune-ups or certifications, post technical questions and comments. Plus, check out what other Kestrel users are saying in the product reviews section.

Phone  
Toll Free: 800-784-4221  
610-447-1555  
Mon-Thu, 9am-5pm ET &  
Fri, 9am-4pm ET

Technical Support  
techsupport@nkhome.com

Order & Repair Status Information  
orders@nkhome.com

If you have a question, we have an answer.

Connect with us online for news, freebies, exclusive promotions and more.

NKhome.com

www.facebook.com/KestrelMeters www.twitter.com/KestrelChick  
www.twitter.com/KestrelWeather

MEET THE NK DOGS!

The Kestrel staff included a bevvvy of dogs who help keep our "cool" under pressure.



Nemo



Dazey



Hugo



Lyla



Morris



Oscar

KESTREL FIVE-YEAR WARRANTY

We understand that Kestrel Meters are used to help people do their jobs more efficiently, and that reliability is paramount. Kestrel Meters are trusted by wildland firefighters, scientific researchers, professional meteorologists, first responders, HAZMAT teams, and even the US Military. We know they don't lead a pampered life, and we design them for years of performance in tough conditions. Every Kestrel Weather Meter is built in our manufacturing facility in Boothwyn, Pennsylvania, and tested multiple times during and after assembly for function, sealing and appearance. We guarantee every Kestrel product to be free of defects in materials and workmanship for a period of FIVE YEARS from your date of purchase. We will repair or replace any defective product or part when notified within the warranty period, and will return the product via domestic ground shipping at no charge.

The following issues do not result from a manufacturing defect and are not covered under this warranty:

- Damage resulting from severe impact, crushing or intentional mechanical harm
- Modifications or attempted repairs by someone other than an authorized NK repair agent
- Normal wear from use of the product
- Failed batteries and/or battery corrosion damage
- Re-calibration beyond 30 days from your date of purchase

Your warranty period will be measured from your date of purchase. The best way to ensure full warranty coverage is to REGISTER your Kestrel Meter promptly via NK's website). We keep your registration information strictly confidential and do not sell it, share it, or use it for anything but product-related information bulletins (which you may decline receiving). If you do not register and cannot provide proof of purchase, your warranty period will be measured from our date of manufacture (by serial number). Note that you may check your unit's date of manufacture by entering its serial number in the warranty support area of NK's website.

We request that you contact NK if you feel your product is not working properly. We can often resolve product issues by phone or e-mail, saving you the time and expense of returning the unit. If we require the product to be returned, we will direct you to the support area of our website to request a Return Authorization to expedite the return of your unit to you.

MADE IN THE U.S.A.

There are many legal and regulatory standards for determining country of origin of a product. What does NK mean when we say "Kestrel Weather and Environmental Meters are designed and manufactured in the USA"?

- NK employees all work together in our single-location factory in southeastern Pennsylvania to research, design, build, test, calibrate, market, pack, ship and support NK's products, including Kestrel Weather and Environmental Meters.
- We purchase many of our components from US partners, including:
  - All of our injection molded parts
  - All of our product labeling, nameplates, panels, packaging and printing
  - Berry-compliant options for cases and sewn accessories
  - Precision machined metal parts
  - Batteries
- When we do partner with outside resources for software or industrial and mechanical design, we generally work with US companies, although we enjoy some long-standing relationships with global engineering partners which are particularly helpful when complying with export regulations.
- We actively support US manufacturing through Lean continuous improvement of our processes, as well as sharing of best practices with other companies seeking to do the same.

Of course, the majority of the electronic components contained in a Kestrel meter originate from overseas in Europe (precision sensors) or Asia (displays, circuit boards and micro components), where virtually all of such components are now fabricated. We select these components for optimum performance and reliability, not country of origin.

Every Kestrel meter qualifies for preferential treatment under the NAFTA under both the change in tariff classification and regional value-content requirements of Preference Criterion B. Every Kestrel meter also meets the requirements of the Buy American Act because more than 50% of the cost of its components is produced or manufactured in the United States.





SENSORS					
SENSOR	ACCURACY (+/-)*	RESOLUTION	SPECIFICATION RANGE	OPERATIONAL RANGE	NOTES
Wind Speed   Air Flow	Larger of 3% of reading, least significant digit or 20 ft/min	0.1 m/s 1 ft/min 0.1 km/h 0.1 knots 1 ft 1 ft	0.6 to 40.0 m/s 118 to 7,874 ft/min 2.2 to 144.0 km/h 1.3 to 89.5 mph 1.2 to 77.8 knots 0 to 12 ft	0.6 to 60.0 m/s 118 to 11,811 ft/min 2.2 to 144.0 km/h 1.3 to 134.2 mph 1.2 to 116.6 knots 0 to 12 ft	1 inch 25 mm diameter impeller with precision axle and low-friction Zytel® bearings. Startup speed stated as lower limit, readings may be taken down to 0.4 m/s   79 ft/min   1.5 km/h   9 mph   .8 kt after impeller startup. Off-axis accuracy -1% @ 5° off-axis; -2% @ 10°; -3% @ 15°. Calibration drift < 1% after 100 hours use at 16 MPH   7 m/s. Replacement impeller (NK PN-0801) field installs without tools (US Patent 5,783,753). Wind speed calibration and testing should be done with triangle on impeller located at the top front face of the Kestrel.
Ambient Temperature	0.9 °F 0.5 °C	0.1 °F 0.1 °C	-20.0 to 158.0 °F -29.0 to 70.0 °C	14.0.0 to 131.0 °F -10.0 to 55.0 °C	Hermetically-sealed, precision thermistor mounted externally and thermally isolated (US Patent 5,939,645) for rapid response. Airflow of 2.2 mph 1 m/s or greater provides fastest response and reduction of insulation effect. Calibration drift negligible. Thermistor may also be used to measure temperature of water or snow by submerging thermistor portion into material -- remove impeller prior to taking submerged measurements and ensure humidity sensor membrane is free of liquid water prior to taking humidity based measurements after submersion.
Globe Temperature-Tg	°F 1.4 °C	0.1 °F 0.1 °C	-20.0 to 140.0 °F -29.0 to 60.0 °C	14.0 to 131.0 °F -10.0 to 55.0 °C	Temperature inside 1in 25 mm black powder coated copper globe converted to Tg equivalent for standard 6 in 150 mm globe. Closest equivalence obtained with airflow greater than 2.2 mph 1 m/s.
Relative Humidity	3.0 %RH	0.1 %RH	5 to 95% non-condensing	0 to 100%	Polymer capacitive humidity sensor mounted in thin-walled chamber external to case for rapid, accurate response (US Patent 6,257,074). To achieve stated accuracy, unit must be permitted to equilibrate to external temperature when exposed to large, rapid temperature changes and be kept out of direct sunlight. Calibration drift +/- 2% over 24 months. Humidity sensor may be recalibrated at factory or in field using Kestrel Humidity Calibration Kit (NK PN-0802).
Pressure	0.03 inHg 1.0 hPa mmbar 0.01 PSI	0.01 inHg 0.1 hPa mmbar 0.01 PSI	8.86 to 32.49 inHg 300.0 to 1100.0 hPa mmbar 4.35 to 15.95 PSI and 32.0 to 185.0 °F 0.0 to 85.0 °C	0.30 to 48.87 inHg 10.0 to 1654.7 hPa mmbar 0.14 to 24.00 PSI and 14.0 to 131.0 °F -10.0 to 55.0 °C	Monolithic silicon piezoresistive pressure sensor with second-order temperature correction. Pressure sensor may be recalibrated at factory or in field. Adjustable reference altitude allows display of station pressure or barometric pressure corrected to MSL. Kestrel 4200 displays station pressure on a dedicated screen. Kestrel 2500 and 3500 display continuously updating three-hour barometric pressure trend indicator: rising rapidly, rising, steady, falling, falling rapidly. Kestrel 4000 series displays pressure trend through graphing function. PSI display on Kestrel 4000 series only.
Compass	5°	1° 1/16th Cardinal Scale	0 to 360°	0 to 360°	2-axis solid-state magnetoresistive sensor mounted perpendicular to unit plane. Accuracy of sensor dependent upon unit's vertical position. Self-calibration routine eliminates magnetic error from batteries or unit and must be run after every full power-down (battery removal or change). Readout indicates direction to which the back of the unit is pointed when held in a vertical orientation. Declination/variation adjustable for True North readout.

ADDITIONAL SPECIFICATIONS			
Display & Backlight	For 1000, 2000 and 3000 Models: Reflective 3 1/2 digit LCD. Digit height 0.36 in / 9 mm. Aviation green electroluminescent backlight. Manual activation with auto-off.	Certifications	CE certified, RoHS and WEEE compliant. Individually tested to NIST-traceable standards (written certificate of tests available at additional charge).
	For 2500, 3500 and 3500DT Models: Reflective 5 digit LCD. Digit height 0.36 in / 9 mm. Choice of aviation green or visible red (NV models only) electroluminescent backlight. Manual activation with auto-off.	Origin	Designed and manufactured in the USA from US and imported components. Complies with Regional Value Content and Tariff Code Transformation requirements for NAFTA Preference Criterion B.
	For 4000 Series Models: Multifunction, multi-digit monochrome dot-matrix display. Choice of aviation green or visible red (NV models only) electroluminescent backlight. Automatic or manual activation.	Battery Life	For 1000 through 3500 Models: CR2032, one, included. Average life, 300 hours. Battery life reduced by backlight use in 2000 to 3500 models.  For 4000 Series Models: AAA Alkaline, two, included. Average life, 400 hours of use, reduced by backlight or Bluetooth radio transmission use. Tactical Models: AAA Lithium, two, included. Average life, 400 hours of use, reduced by backlight or Bluetooth radio transmission use.
Response Time & Display Update	All measurements except those based on relative humidity respond accurately within 1 second. Relative humidity and all measurements which include RH in their calculation may require as long as 1 minute to fully equilibrate to a large change in the measurement environment. Display updates every 1 second.	Shock Resistance	MIL-STD-810g, Transit Shock, Method 516.5 Procedure IV; unit only; impact may damage replaceable impeller
	For 1000 through 3500 Models: One-button clear and restart of Max Wind Gust and Average Wind measurement.	Sealing	Waterproof (IP67 and NEMA-6).
Max/Avg Wind	For 4000 Series Models: Max and average wind calculation may be started and stopped independently of data logging of other values, along with all other wind-related functions: air velocity, crosswind, headwind/tailwind, wind chill, WBGT, TWL, evaporation rate.	Operational Temperature Limits	14° F to 131° F   -10 °C to 55 °C. Measurements may be taken beyond the limits of the operational temperature range of the display and batteries by maintaining the unit within the operational range and exposing it to the more extreme environment for the minimum time necessary to take reading.
Data Storage & Graphical Display, Min/Max/Avg History	For 4000 Series Models: Minimum, maximum, average and logged history stored and displayed for every measured value. Large capacity data logger with graphical display. Manual and auto data storage. Min/Max/Avg history may be reset independently. Auto-store interval settable from 2 seconds to 12 hours, overwrite on or off. Logs even when display off except for 2 and 5 second intervals (code version 4.18 and later). Data capacity:	Storage Temperature	-22.0 °F to 140.0 °F   -30.0 °C to 60.0 °C
Data Upload & Bluetooth® Data Connect Option	For 4000 Series Models: Requires optional PC interface (USB or RS-232) or Bluetooth data transfer option and provided software. Bluetooth Data Transfer Option: Adjustable power consumption and radio range from up to 30 ft   9 meters. Individual unit ID and 4-digit PIN code preprogrammed for easy identification and data security when pairing and transmitting. Employs Bluetooth Serial Port Protocol for data transmission.	Size & Weight	For 1000 through 3500 Models: 4.8 x 1.9 x 1.1 in / 12.2 x 4.8 x 2.8 cm, 3.6 oz / 102 g (including slip-on cover).
Clock / Calendar	For 1000 through 3500 Models: Real-time hours:minutes clock.		For 4000 Series Models, excluding 4400: 5.0 x 1.8 x 1.1 in / 12.7 x 4.5 x 2.8 cm, 3.6 oz / 102 g.
Auto Shutdown	For 1000 through 3500 Models: After 45 minutes of no key presses.		For 4400 Model Only: 6.5 x 2.3 x 1.1 in / 16.5 x 5.9 x 2.8 cm, 4.4 oz / 125 g.
Auto Shutdown	For 4000 Series Models: User-selectable -- 15 or 60 minutes with no key presses or disabled.		
Languages	For 4000 Series Models: English, French, German, Italian, Spanish.		

CALCULATED MEASUREMENTS					
MEASUREMENT	ACCURACY (+/-)*	RESOLUTION	SPECIFICATION RANGE	SENSORS EMPLOYED	NOTES
Air Density	0.0002 lb/ft3 0.0033 kg/m3	0.001 lb/ft3 0.001 kg/m3	Refer to Ranges for Sensors Employed	Temperature Relative Humidity Pressure	Mass of air per unit volume. 4250 only.
Air Flow	6.71%	1 cfm 1 m3/hr 1 m3/m 0.1m3/s 1 L/s	Refer to Ranges for Sensors Employed	Air Flow User Input (Duct Shape & Size)	Volume of air flowing through an opening. Automatically calculated from Air Velocity measurement and user-specified duct shape (circle or rectangle) and dimensions (units: in, ft, cm or m). Maximum duct dimension input: 258.0 in   21.5 ft   655.3 cm   6.55 m. 4250 only.
Altitude	typical: 23.6 ft 7.2 m max: 48.2 ft 14.7 m	1 ft 1 m	typical: 750 to 1100 mBar max: 300 to 750 mBar	Pressure User Input (Reference Pressure)	Height above Mean Sea Level (MSL). Temperature compensated pressure (barometric) altimeter requires accurate reference barometric pressure to produce maximum absolute accuracy. Both accuracy specs corresponds to a reference pressure anywhere from 850 to 1100 mBar.
Barometric Pressure	0.07 inHg 2.4 hPa mmbar 0.03 PSI	0.01 inHg 0.1 hPa mmbar 0.01 PSI	Refer to Ranges for Sensors Employed	Pressure User Input (Reference Altitude)	Air pressure that would be present in identical conditions at MSL. Station pressure compensated for local elevation provided by reference altitude. Requires accurate reference altitude to produce maximum absolute accuracy. Absolute pressure or station pressure is unadjusted. 4250 only.
Crosswind & Headwind/Tailwind	7.1%	1 mph 1 ft/min 0.1 km/h 0.1 m/s 0.1 knots	Refer to Ranges for Sensors Employed	Wind Speed Compass	Effective wind relative to a target or travel direction. Auto-switching headwind/tailwind indication. 4500 and 4600 only.
Delta T	3.2 °F 1.8 °C	0.1 °F 0.1 °C	Refer to Ranges for Sensors Employed	Temperature Relative Humidity Pressure	Difference between dry bulb temperature and wet bulb temperature. When spraying, indicates evaporation rate and droplet lifetime. Safe range for pesticide spraying is 4 to 16 °F / 2 to 9 °C. 3500 DT only.
Density Altitude	236 ft 69 m	1 ft 1 m	Refer to Ranges for Sensors Employed	Temperature Relative Humidity Pressure	Local air density converted to equivalent elevation above sea level in a uniform layer consisting of the International Standard Atmosphere.
Dewpoint	3.4 °F 1.9 °C	0.1 °F 0.1 °C	15 to 95 % RH Refer to Range for Temperature Sensor	Temperature Relative Humidity Pressure	Temperature that a volume of air must be cooled to at constant pressure for the water vapor present to condense into dew and form on a solid surface. Can also be considered to be the water-to-air saturation temperature.
Evaporation Rate	0.01 lb/ft2/hr 0.06 kg/m2/hr	0.01 lb/ft2/hr 0.01 kg/m2/hr	Refer to Ranges for Sensors Employed	Wind Speed Temperature Relative Humidity Pressure User Input (Concrete Temperature)	The rate at which moisture is lost from the surface of curing concrete. Requires user measurement and entry of concrete temperature obtained with an accurate IR or probe thermometer (°F or °C, not included). Readings should be taken 20 inches above pour surface with the thermistor shaded, and averaged for 6-10 seconds using built-in averaging function. 4300 only.
Heat Index	7.1 °F 4.0 °C	0.1 °F 0.1 °C	Refer to Ranges for Sensors Employed	Temperature Relative Humidity	Perceived temperature resulting from the combined effect of temperature and relative humidity. Calculated based on NWS Heat Index (HI) tables. Measurement range limited by extent of published tables.
Moisture Content   Humidity Ratio (Grains)	.3 gpp .04g/kg	0.1 gpp 0.01 g/kg	Refer to Ranges for Sensors Employed	Temperature Relative Humidity Pressure	Mass of water vapor in a mass of air. 4200 and 4250 only.
Relative Air Density	0.3%	0.1%	Refer to Ranges for Sensors Employed	Temperature Relative Humidity Pressure	The ratio, expressed as a percentage, of measured air density to the air density of a standard atmosphere as defined by the ICAO.
Thermal Work Limit (TWL)	10.9 W/m2	0.1 W/m2	Refer to Ranges for Sensors Employed	Wind Speed Temperature Globe Temperature Relative Humidity Pressure	Estimated safe maximum continuously sustainable human metabolic rate (W/m2) for the conditions and clothing factors. Based off of estimated metabolic output of typical human. On-screen zone warnings. 4400 and 4600 only.
Outdoor Wet Bulb Globe Temperature (WBGT)	1.3 °F 0.7 °C	0.1 °F 0.1 °C	Refer to Ranges for Sensors Employed	Wind Speed Temperature Globe Temperature Relative Humidity Pressure	Measure of human heat stress defined as the combination of effects due to radiation, convection, and conduction. Outdoor WBGT is calculated from a weighted sum of natural wet bulb (Tnwb), globe temperature (Tg), and dry bulb temperature (Td). User settable on-screen warning zones. 4400 and 4600 only.
Wet Bulb Temperature - Naturally Aspirated (Tnwb)	1.4 °F 0.8 °C	0.1 °F 0.1 °C	Refer to Ranges for Sensors Employed	Wind Speed Temperature Globe Temperature Relative Humidity Pressure	Similar to psychrometric wet-bulb temperature (see below). However, Tnwb only undergoes forced convection from the ambient air velocity. Tnwb is a measure of the evaporative cooling that the air will allow. This is accounted for by combining the effects of, mainly, relative humidity and windspeed. 4400 and 4600 only.
Wet Bulb Temperature - Psychrometric	3.2 °F 1.8 °C	0.1 °F 0.1 °C	Refer to Ranges for Sensors Employed	Temperature Relative Humidity Pressure	Temperature indicated by a sling psychrometer. Due to nature of the psychrometric ratio for a water-air system, this approximates the thermodynamic wet-bulb temperature. The thermodynamic wet-bulb temperature is the temperature a parcel of air would have if cooled adiabatically to saturation temperature via water evaporating into it.
Wind Chill	1.6 °F 0.9 °C -	0.1 °F 0.1 °C	Refer to Ranges for Sensors Employed	Wind Speed Temperature	Perceived temperature resulting from combined effect of wind speed and temperature. Calculated based on the NWS Wind Chill Temperature (WCT) Index, revised 2001, with wind speed adjusted by a factor of 1.5 to yield equivalent results to wind speed measured at 10 m above ground. Measurement range limited by extent of published tables.



