

FAQ's

How does the Kestrel 4500's crosswind calculator work?

The 4500 features a built-in digital compass that allows you to measure the wind speed and direction. In order to display the crosswind, simply point the Kestrel down the runway or target and set the reference heading. Then hold the 4500 into the wind and it automatically calculates the crosswind with respect to the reference heading. It also calculates the headwind/tailwind the same way (headwinds are positive values and tailwinds are negative).

What's so great about the Kestrel impeller?

The Kestrel impeller measures 1 inch across, and turns on a Swiss precision pivot mounted on sapphire bearings. Its large size ensures accurate readings even if pointed off-angle from the wind, and its very low start-up speed allows measurement of the lightest puffs of wind. If damaged, a new calibrated impeller can be purchased for \$19 and popped in without tools, restoring like-new performance.

Can the Kestrel 4000 communicate directly with a PDA or computer?

No. Due to the rapidly changing standards for product communication, data upload is presently limited to a USB or serial interface to communicate with a PC. Additional communication options may be developed in the future as a predominant standard emerges among Kestrel users.

What's that curly looking thing?

That's the patented Kestrel temperature sensor. Unlike most watches and other products with temperature measurement, the Kestrel sensor is outside the case to ensure it measures the air, not your hand or pocket. The "curls" serve to further isolate the temperature sensor from the effects of the case temperature.

How does the Kestrel measure humidity so accurately?

The Kestrel features a patented dual temperature sensor configuration for rapid response and accurate measurement. Every Kestrel is calibrated against NIST-traceable standards, and can be recalibrated in the field with the Kestrel RH kit.

How does the Kestrel measure altitude?

The Kestrel uses an atmospheric pressure sensor and calculates altitude based on a standard atmosphere. This is just like the altimeter in an airplane, or an altimeter watch. It's more accurate than a GPS altimeter, but does require periodic reset of the reference pressure to eliminate weather effects.

How does the altimeter work? Is the reference pressure the same as an altimeter setting?

The Kestrel models with altimeter calculate altitude from barometric pressure in exactly the same manner and according to the same rules as an aircraft altimeter. The "reference pressure" on the Altitude screen is the same as the altimeter setting obtained from a local airfield.

Can the Kestrel provide location?

Currently we do not offer a Kestrel with GPS. We may add basic GPS location to a future Kestrel model, but we'll leave the full-blown mapping and navigation to the companies that specialize in GPS as much as we specialize in weather.

Do you really mean MADE in the USA?

Yes. The entire Kestrel line is designed and built in the USA. Some electronic components have to be sourced overseas these days, but we buy American wherever we can.

Who do I call if I have a problem?

You call us! From our Customer Service Representatives to the President of the company, we all answer the phone and know these products inside and out. If you have a problem, we'll fix it. Kestrels hardly ever break, but if they do, they're covered by a five-year warranty.

Kestrel® Pocket Weather® Meters

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Kestrel® Pocket Weather® Meters





Long Range, Competitive, & Benchrest Shooting

"A 45° oblique wind gives a three-quarter value wind speed."

"A clump of grass dropped from three feet drifts 3 feet for every 10 MPH of wind speed."

"The air pressure decreases by one inch for each 1000 feet of elevation gained."

As a long-range or benchrest shooter, you probably know and use rules of thumb like these. You know that crosswind, air pressure, temperature and humidity all affect the ballistic coefficient and wind drift of your shot. But estimates and rules of thumb won't consistently yield a small group. 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. Plus it measures air pressure (actual and barometric), altitude, density altitude, temperature and relative humidity and logs up to 1400 sets of data automatically or manually. Serious shooters don't estimate - they use Kestrel. Just ask the US Olympic Biathlon Team - they use their Kestrels before every shot.

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. Air temperature alone affects the ballistics picture in multiple ways, impacting air density, air elasticity, combustion rate, and even air pressure inside the cartridge. Loads developed at sea level pressure will shoot much flatter at high elevations or low pressure. Ballistic coefficients are reported in standard atmospheric conditions and correction for both temperature and pressure is required to easily yield an accurate BC. Armed with a Kestrel 4000, you can measure and store the environmental conditions for each shot you take, and then upload the data to a computer for later reference or input it into a ballistics program for detailed trajectory calculations.



The Kestrel® 4000 is consistently on the military sniper's "most wanted" list of desired equipment.

Kestrel® Pocket Weather® Meters - Real Weather... Whatever Your Mission.

Sniper Training & Operations

Crosswind strongly influences the accuracy of sharp shooting, becoming the largest error component at long ranges. Even medium crosswind velocities (~5 m/s) along the flight path of a bullet can cause 1-meter deviations at 500 meters. The Kestrel 4500 automatically calculates the crosswind, as well as measures the other environmental factors that play into ballistics performance - temperature, humidity and density altitude. Simply plug the Kestrel's weather data into any ballistics software to calculate accurate windage adjustments. It's no wonder the Kestrel is consistently on the military sniper's "most wanted" list of desired equipment.



Police Work

Within seconds of arriving at a scene, police, SWAT, special operations and first response personnel can gather the weather data they need quickly and accurately with a Kestrel 4500. The data logging capabilities of any Kestrel 4000 series meter provide fool-proof documentation of all historical data in the field, making incident report preparation a snap. Paired with the Portable Vane Mount and a tripod, a Kestrel 4500 is capable of measuring all parameters required for CAMEO®/ALOHA® plume modeling applications with no tedious setup.

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. The further the distance to the target, the greater the influence of the wind. Accurate measurement of the wind in practice and in competition is the best way for a competitive archer to develop his or her ability to read and adjust for the wind. The Kestrel 1000 is simple, accurate, reliable and easy to carry. Simply hold it up and it gives you the current wind speed, maximum wind gust and average wind speed since you turned it on.

