

## K4200 FEATURES

- Multifunction instrument
- Graphical three-line displays
- Data capture up to 1600 readings
- Minimum/maximum/average values
- User defined screens
- Compact, rugged design
- High accuracy
- Wide operating range
- Precision jewel mounted impeller
- User-replaceable impeller
- Fast response temperature sensor
- Easy to read back-lit display
- Hard cover protects impeller
- Language selection
- Runs from 2 AAA batteries
- Data upload (with optional PC interface)
- Available in safety orange

## K4200 FUNCTIONS

- Air velocity
- Volume air flow
- Temperature
- Wind Chill
- Relative humidity
- Heat index
- Dew point
- Wet bulb temperature
- Humidity ratio
- Barometric pressure
- Altitude
- Density altitude
- Time & Date

The Kestrel 4200 Pocket Air Flow Tracker has been designed for HVAC applications, allowing instant and accurate readings of air flow and environmental conditions whenever and wherever you are.

Ideal for HVAC, health & safety, facilities and maintenance engineers, the Kestrel 4200 offers a multitude of features to help monitor your environment in one single instrument - right in the palm of your hand.

The Kestrel 4200 combines all the features of the Kestrel 4000 and Kestrel 4100 and also makes the HVAC technicians job even easier with built-in wet bulb temperature and humidity ratio readings.

Like the Kestrel 4100, the Kestrel 4200 features automatic volume air flow readings. Simply enter the duct shape and dimensions, hold the Kestrel 4200 in the air stream and the volume air flow readings are displayed - no calculator required! With the convenient averaging mode, you can be sure the volume air flow readings are accurate in any airflow or duct size and shape.

Individual functions can be displayed in three different formats: current, minimum/maximum/average and chart. There are also three user screens, which can be customised to simultaneously display the three most appropriate functions for the application.

The Kestrel 4200 can be set up to log data automatically (as well as manually) at programmable intervals, in order to display a history of environmental information. Graphs display up to 1600 data points. When a data point is highlighted, the value,



actual size  
(A4 page)

time and date of capture point can be shown. An optional interface is available to upload the data direct to a PC.

The display is easy to read with illumination for use in poor lighting conditions.

High precision jewel bearings and a lightweight impeller provide accurate air flow measurements (+/-3% of reading) and the ability to operate at speeds as low as 0.4 metres a second. The impeller is user-replaceable in case of damage, also ensuring high accuracy levels are maintained for life. An integral hard cover protects the impeller when not in use.

A precision external thermistor sensor provides fast response temperature readings and accuracy of +/- 1°C. The 0.1 degree resolution of the display aids in determining when a consistent reading has been reached. A special housing protects the relative humidity sensor from contamination providing an accuracy of +/-3%.

The Kestrel 4200 Pocket Air Flow Tracker is as accurate and comprehensive as other instruments costing far more. On-screen customisation allows the technician to personalise their 4200.

The Kestrel 4200 is powered by two easily replaceable AAA batteries and has two power saving modes to prolong battery life. All text can be displayed in one of five different languages: English, French, German, Italian or Spanish.

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## TECHNICAL SPECIFICATION

<b>Physical</b>	Dimensions	127mm x 45mm x 28mm		
	Weight	102g		
	Lanyards	0.2m and 0.5m (for wrist and neck)		
	Case colour	Safety orange		
<b>Display</b>	Display type	Dot matrix LCD with electro-luminescent backlighting		
	Display update	1 second		
	Data logging	Programmable 2 second to 12 hour intervals, 1600 data points with graphical display. Manual data capture. Data upload with optional PC interface.		
	Functions	Air velocity (current, maximum and average)	Calculated Dew Point	
		Volume air flow	Wet bulb temperature	
		Air temperature	Humidity ratio	
		Wind Chill equivalent temperature	Barometric pressure	
		Relative Humidity	Altitude	
		Heat Index	Density altitude	
	Velocity units	kt, m/s, km/h, mph, ft/min, Beaufort Force (B)		
	Flow units	m <sup>3</sup> /s, m <sup>3</sup> /min, m <sup>3</sup> /hr, l/s, ft <sup>3</sup> /min		
	Temperature units	°C, °F		
	Relative humidity units	%		
	Pressure units	mbar, inHg, hPa, psi		
	Altitude units	m, ft		
	Humidity ratio units	g/kg, gpp		
	Duct/opening	cm, m, in, ft		
Shape of duct	Circular (diameter), rectangular (length and width)			
Date and time display	dd/mm/yy, mm/dd/yy, 12 hour, 24 hour			
<b>Performance</b>	Air velocity (1 sec response)	Operational range	0.4m/s to 60m/s (0.8 to 135.0mph)	
		Specification range	0.4m/s to 40m/s (0.8 to 89.0mph)	
		On axis accuracy	± 3% of reading or ± 0.1 m/s. (Some loss of accuracy from bearing wear may occur with sustained operation at or near maximum speed)	
		Off -axis response	-1% @ 5°, -2% @ 10°, -3% at 15°	
		Calibration drift	<1% after 100hrs operation at 7m/s	
		Resolution	0.1 kt, m/s, km/h, mph. 1 FPM below 1999 FPM, 10 FPM above 2000 FPM. 1 Beaufort (0 to 12)	
	Air flow accuracy	Operational range	± 3% of reading	
		Specification range	-45.0°C to +125.0°C	
		Accuracy	±1°C	
		Resolution	0.1°	
	Temperature (1 sec response)	Wind chill accuracy	±1.0°C (from wind speed and temperature)	
		Relative Humidity (1 min response)	Operational range	0% to 100%
			Specification range	5% to 95% non-condensing
			Resolution	0.1%
			Accuracy	±3% (when unit allowed to equilibrate to external temperature)
	Calibration drift	±2% over 24 months (correctable)		
	Dew point accuracy	±2°C (above 20% relative humidity)		
	Heat index accuracy	±2°C (between 21.1°C and 54.4°C)		
	Barometric Pressure (1 sec response)	Operational range	10 to 1100 mbar at 25°C	
		Specification range	750 to 1100 mbar at 25°C	
		Resolution	0.1 mbar	
		Accuracy	±1.5 mbar (max error over range 0°C to 70°C: ±2.0 mbar)	
		Calibration drift	Typically ±1 mbar per year (correctable)	
Altitude (1 sec response)	Operational range	-2000m to +9000m (-6000 ft to +30,000 ft)		
	Specification range	-2000m to +6000m at 25°C		
	Accuracy	±15m (max error out of spec range: ±30m)		
	Resolution	1m or 1ft		
Wet bulb temperature accuracy	±2°C (between 0°C and 37.8°C)			
Density altitude accuracy	±75m (between 0°C and 37.8°C)			
Humidity ratio accuracy	±10% (typical, between -29°C and +54°C)			
<b>Sensors</b>	Impeller	Diameter 25mm. High precision axle and jewel (sapphire) bearings. User replaceable impeller assembly		
	Temperature	Thermally isolated, hermetically sealed precision thermistor		
	Relative Humidity	Polymer capacitive sensor, mounted externally in thin-walled chamber		
	Barometric pressure	Monolithic piezo-resistive silicon based sensor with second-order temperature correction		
<b>Environmental</b>	Sealing	Electronics enclosure IP67 [Water resistant]		
	Shock	Drop tested (MIL.STD.810F - unit only)		
	Temperature	Operating range: -10°C to +55°C (for LCD readability and batteries) Storage range: -30°C to +60°C		
	EMC	CE marked		
<b>Miscellaneous</b>	Battery	2 off AAA alkaline, included, user replaceable		
	Battery Life	400 hours of use, average, ± depending on backlight use		
	Auto switch off	Selectable to remain switched on or switch off 15 or 60 minutes after last key press		
	Wind chill equivalent temperature calculation	Utilises the (US) NWS Wind Chill Temperature (WCT) Index, revised 2001, with wind speed adjusted by a factor of 1.5 to yield equivalent results for wind speed measured at 10m above ground		
	Heat Index calculation	Steadman, from temperature and relative humidity		
	Certification	Air velocity, temperature, pressure and humidity measurements are tested during manufacture. A certificate of conformity (C of C) is included with each Kestrel. Calibration certificates are available for an additional fee.		
	Guarantee	5 years		