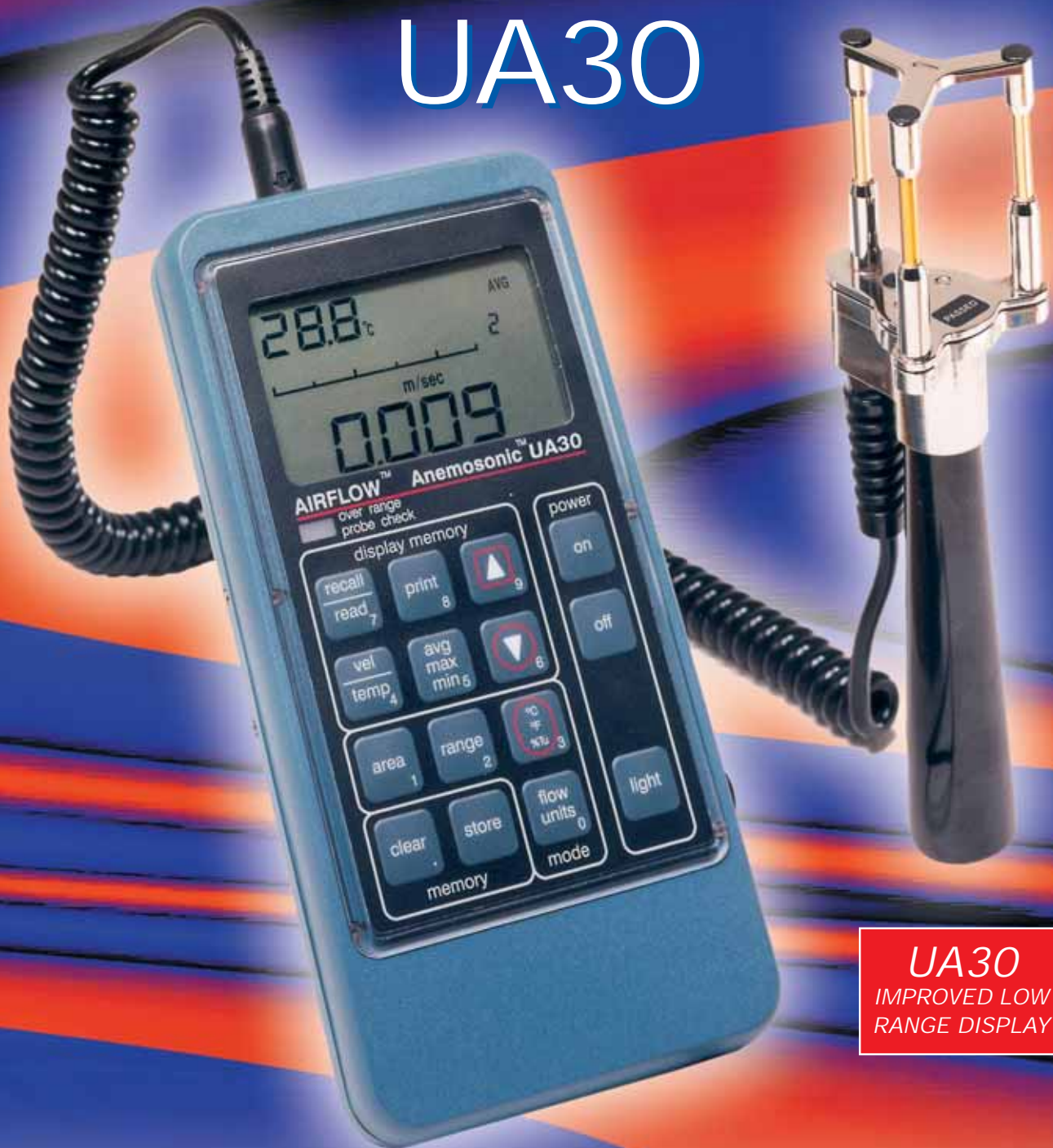


Anemosonic™ UA30



UA30
IMPROVED LOW
RANGE DISPLAY

Hand held ultrasonic
air flow measurement

AIRFLOW™

THE SPECIALISTS IN AIR MOVEMENT TECHNOLOGY

MILLENNIUM
PRODUCTS
MILLENNIUM
PRODUCT

MILLENNIUM TECHNOLOGY

- Unaffected by temperature, relative humidity, pressure or density changes
- Excellent 40° angle Yaw and Pitch
- Velocity range up to 50 m/sec
- Accurate - calibrated for life
- 3 Decimal place resolution
- 100% repeatability
- Compact sensor
- Measures velocity, volume flow turbulence, air stream temperature
- Sensor compensates for uni-directional flows up to $\pm 20^\circ$ from airstream centreline
- Unique draught rating index
- Easy to use in any clean air and inert gas flow
- Ten measurement display choices
- Turbulent flow alert bar graph
- Hand held or stand alone logging
- Memory, logging and Windows® connectivity
- Maintenance free - no moving parts so no routine repairs
- ISO 9001 assured



ANEMOSONIC™ UA30

Announced as a Millennium product by Prime Minister Tony Blair on 14th December 1999 for

"Representing the very best of British Innovation, creativity and design"

AIRFLOW™

Airflow measurement

A MAJOR ADVANCE IN AIR MEASUREMENT



Anemosonic™ UA30 is a major advance in reliable ultrasonic measurement techniques by being truly portable, with a sensor less than 45mm across and adaptable by offering a choice of hand held or stand-alone monitoring. Exceptional accuracy is achieved by electronically sampling the velocity at an incredible 3840 times every second. Turbulence and air speed vectors can also be determined.

Using fundamental technology, the ultrasonic measurement is unaffected by changes in temperature, relative humidity, barometric pressure or air/gas density, making Anemosonic™ UA30 universally suitable for velocity and flow measurement of any air or inert gas media. The display reads velocity to 3 decimal places enabling outstanding resolution even at very low levels.



Calibrated for life during manufacture to international standards annual re-calibration is a cost of the past. With no moving parts reliability is high, repair costs are virtually eliminated under normal usage.

Anemosonic™ UA30 offers a choice of many simple and helpful yet powerful user friendly features including an articulating telescopic extension handle, selectable velocity readings in m/sec, km/h, knots, mph or ft/min and volume flow in cfm or m³/sec, with percentage air speed turbulence indication and automatic vector compensation up to $\pm 20^\circ$ from the centre line.



In the event of highly unstable air flow the display will alert to excessive conditions.

Temperature display is in $^\circ\text{C}$ or $^\circ\text{F}$. Readings can be saved in up to 99 identifiable memory locations. Data can be recalled, reviewed and downloaded via the analogue output or through the RS232 interface to a mini printer or by seamless interface with a P.C. for manipulation in WINDOWS® software.



In addition to the digital bar graph alerting to unstable flow conditions a unique feature of Anemosonic™ UA30 is the percentage draught rating display.

Recent European guidelines issued by CEN have introduced "Design Criteria for the Indoor Environment". As part of CEN report CR1752, a method of calculating draught around the person has been determined.

Anemosonic™ UA30 displays a % turbulence intensity value which is integral to the measurement guidelines.



ment at the speed of sound

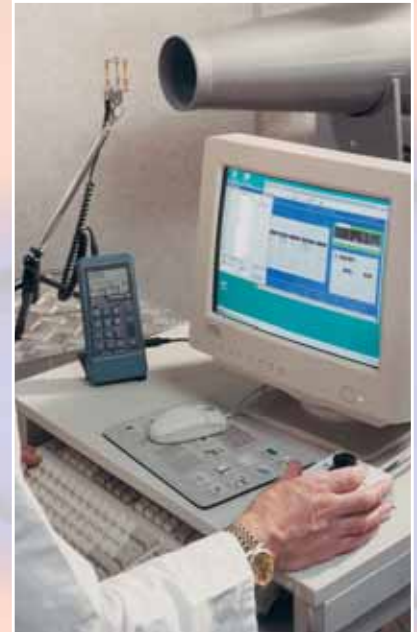


FUNDAMENTAL TECHNOLOGY

Ultrasonic techniques are well proven in fluid dynamics measurement. Anemosonic's™ advanced design now takes this technology much further into the field of clean air and gas flow velocity measurement with a "mini sensor". Using three energised "posts", sound waves are transmitted sequentially 3840 times every second. The time taken for a sound to travel from one post to another and for a wave to return over the same precise distance is measured. The instruments software calculations overcome variables such as the speed of

sound and other dynamic corrections including turbulence and vector to establish true velocity. By using the speed of sound, @ 340.3 m/sec in standard air as a "carrier" the true velocity can be calculated with 100% certainty and repeatability. Any changes in ambient temperature, barometric pressure, RH and gas density conditions are rendered irrelevant permitting Anemosonic™ UA30 to be used in mixed air/inert gas density situations without any need for corrections, re-calibration or complex calculations.

With Anemosonic™ UA30 versatility measurements can be logged either manually or automatically at user selectable time intervals between 1 second and 99 minutes, providing stand-alone and unattended logging capability for longer-term tests. Average, maximum and minimum values are available together with a digital bar graph to indicate turbulent flow conditions. The ability to simply input linear duct or grille dimensions (including flat oval ducts) or the area of an inlet/outlet is also a major time saver to directly measure and routinely log system volume flow rates.



ANEMOSONIC™ UA30 ADVANTAGES

FEATURES

- Air turbulence monitoring - a unique Anemosonic™ UA30 feature
- Absolute calibration for life
- Measures 30 m/sec (6000 ft/min)
- Adjustable display damping
- Exceptional yaw and pitch sensor characteristics
- Bar graph turbulence indicator
- Compact sensor
- RS232 digital and analogue outputs
- Self test diagnostic microprocessor
- Real time and stored readings
- Manual or auto logging
- Avg/max/min with memory
- Auto power down
- High clarity display with back light
- CE, EMC compliant

BENEFITS

- Unaffected by temperature, pressure relative humidity and density
- Ease of use, lightweight and highly accurate
- 100% repeatable readings
- Exceptionally reliable - no moving parts
- Saves on annual re-calibration costs
- Mountable sensor
- Unattended logging
- Fast response
- Use in air and non hazardous gas
- Rugged and durable on-site
- Equally accurate at high and low flows
- Helps compliance with indoor air quality requirements
- Use as Transfer Calibration standard

APPLICATIONS

- Test and calibration
- Building Energy Management Systems
- Air and inert gas flows
- Heating Ventilating and Air Conditioning
- Process control
- IAQ and environmental
- Aeronautical R & D
- Aerodynamics and metrology
- Wind tunnel investigations
- Meteorological
- Laboratory and COSHH
- Military
- Tunnel ventilation

ANEMOSONIC™ UA30 MEASURES

m/sec • ft/min • mph • knots • km/h • cfm • m³/sec • °C • °F • % turbulence

CAPABILITY FOR LIFE

Anemosonic™ UA30 is supplied with a carry case, ultrasonic sensor, articulating telescopic extension rod with handle and calibration certificate traceable to International standards.

The unique technology of Anemosonic™ UA30 means the factory set calibration remains constant throughout its lifetime. However, for our customers requiring accreditation, Airflow do offer an annual certificate re-validation service whereby the instrument may be returned for inspection and re-certification at a greatly reduced cost compared with traditional Anemometer re-calibration prices.

A reply card is included to register with our FREE reminder service for annual re validation to help compliance with COSHH and other similar requirements.

Our instrument hire service is also available to customers having equipment repaired or revalidated.



SPECIFICATION

UA30	METRIC MODE	IMPERIAL MODE
Velocity Range	0-30 m/sec	0-6000 ft/min
Volume Range	0-3000 m ³ /sec	0-6456 x 1000 ft ³ /min
Accuracy calibrated to	better than ±1% of reading ± 1 digit	
Velocity Resolution	0.001 m/sec	1 ft/min
Temperature Range	0-70°C	32° to 158°F
Temperature Accuracy	± 1.0°C	± 2°F
Temperature Resolution	0.1°C	1°F
Flow turbulence intensity (Tu)	2-digit display 0 -99 %	resolution 1 %
Area Input Range	0.008 - 99.99 m ²	0.0862 - 1076 ft ²
Linear Input Range (subject to area limits)	0.0001 - 9999 m	1/8" - 99 ft
Memory Size	99 readings of velocity, temperature & turbulence (note flow data is stored as a velocity)	
Auto Logging variable time base	1 second to 99 minutes 59 seconds	
Analogue Output	0 - 1 volt (0-0.5v and 0-2v also available)	
Digital Output	RS232	
Power Supply	4 x 1.5 volt AA cells. (rechargeable, zinc carbon or alkaline)	
Battery Life	20 Hrs. continuous operation with alkaline batteries	
Overall Dimensions	92 x 32 x 188 mm	3.6 x 1.2 x 7.4 ins
Instrument Operating Environment temp. range	-10°C to + 50°C	14°F to 122°F
Storage temperature range	-20°C to + 60°C	-4°F to 140°F
Ultrasonic Sensor Operating Environment	0°C to 70°C	32°F to 158°F
Weight (less batteries)	440g	0.97lb
Standard Kit	Anemosonic™ UA30 Anemometer, Ultrasonic sensor, Handle & Telescopic extension rod with swivelling joint 0.4 to 1.1M (15" to 43"), Executive carry case, Calibration certificate, Batteries	
Optional Accessories	P.C. Connection cables, Battery eliminator for mains operation, APU 10 Mini Printer, Neck strap and cradle (hands free use)	

Airflow Developments Ltd. reserve the right in the interests of continuous development to alter specifications without prior notice. All orders are subject to our conditions of sale which are available on request

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CERTIFICATE 152
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