5128A RHapid-Cal Humidity Generator

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Calibration

☐ **Was the customer informed of additional 5128A options?**

☐ **Have you confirmed customer quote requirements?**

Quantity	Quote	Model	
_____	☐	5128A	RHapid-Cal Humidity Generator with Square 5 Port Door, 1 Desiccant Cartridge, 1 Fill Syringe with Extension Tube, 5 Grommets (one each of 1/4", 3/8", 1/2", 3/4", 7/8" sizes), One Mains Power Cord 2-meter, Fluke ISO 17025 Accredited System Calibration, 115 VAC/230 VAC
		Options and accessories	
_____	☐	5128-2680	Desiccant Cartridge (including desiccant)
_____	☐	5128-2681-R5	Round Door, 5 ports
_____	☐	5128-2681-SO	Square Door, clear with shelf
_____	☐	5128-2681-S5	Square Door, 5 ports (spare)
_____	☐	5128-CASE	5128A Case with wheels
_____	☐	5128-2682-1/4	Port Grommets Kit, 1/4", 5 each
_____	☐	5128-2682-3/8	Port Grommets Kit, 3/8", 5 each
_____	☐	5128-2682-1/2	Port Grommets Kit, 1/2", 5 each
_____	☐	5128-2682-3/4	Port Grommets Kit, 3/4", 5 each
_____	☐	5128-2682-7/8	Port Grommets Kit, 7/8", 5 each
_____	☐	5128-2683	Port Plugs Kit, 5 each
_____	☐	5128-2684	Fill Syringe with Extension Tube
		Value added services	
_____	☐	SCP-TCAL-B	5128A Silver Care Plan, 1 year
_____	☐	GCP-TCAL-B	5128A Gold Care Plan, 1 year

This is a useful preplanning tool for refreshing your knowledge of the "product" before your sales call.

5128A RHapid-Cal Humidity Generator

Points of differentiation

5128A Points of difference	Competitors
Best-in-class system accuracy for dependable humidity probe calibration **5128A specifications:** Humidity accuracy: System: ±1.0 % RH, 7 to 80 % RH ±1.25 % RH, >80 to 95 % RH Sensor only: Not specified The 5128A RHapid-Cal offers a best-in-class humidity system accuracy of ± 1.0 % RH which includes all known sources of error such as stability, uniformity, drift, and calibration uncertainty. Calibrate with confidence using an instrument with comprehensive specifications. The 5128A also provides the flexibility to improve calibration uncertainty by using an external humidity reference such as a chilled mirror hygrometer.	Rotronic HygroGen 2: Humidity accuracy: System: ±1.59 % RH at 23 °C and 80 % RH Sensor only: ±0.8 % RH, 10 to 30 °C (See the Rotronic HygroGen2 Instruction Manual, E-M-HG2-S-V2.1 document code, page 72 for details.) Michell S904: Humidity accuracy: System: Not specified Sensor only: ±1.0 % RH Testo Huminator II: Humidity accuracy: System: Not specified Sensor only: 1 % + 0.007 x measured value (0-90 % RH) Most competing generators don't specify system accuracy. Their specifications can be complicated and confusing, making it difficult to know how to apply them to a customer's particular calibration process.

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Points of differentiation continued

5128A Points of difference	Competitors
Rapid humidity and temperature stabilization time for fast calibration 5128A rate of change specs: • Temperature increase: 10 °C/minute • Temperature decrease: 1.5 °C/minute • Humidity increase: 10 % RH/minute • Humidity decrease: 5 % RH/minute	Rotronic HygroGen2: • Temperature increase: 5.4 °C/minute • Temperature decrease: 0.92 °C/minute • Humidity increase: 18 % RH/minute • Humidity decrease: Not specified Michell S904 • Temperature increase: 1.5 °C/minute • Temperature decrease: 0.7 °C/minute • Humidity increase: Not specified • Humidity decrease: Not specified Testo Huminator II • Temperature increase: Not specified • Temperature decrease: Not specified • Humidity increase: 15 % RH/minute • Humidity decrease: Not specified Thunder Scientific 1200 • Temperature increase: 0.5 °C/minute • Temperature decrease: 0.25 °C/minute • Humidity increase: Not specified • Humidity decrease: Not specified
Supports on-site, multi-point calibration of humidity probes Using the 5128A RHapid-Cal for a multi-point calibration gives a more reliable test and truer characterization of how a humidity probe actually operates over its working range in the field than spot-check or one-point probe calibration using a handheld humidity meter.	Handheld humidity meters such as Vaisala HM70, Rotronic HygroPalm 23. Spot-check or one-point probe calibration using a handheld humidity meter in the field is convenient, but limited in value. Calibration with a handheld meter needs to be carefully managed. Temperature differences between the probe and its environment, technician body heat, and moisture from breath can all cause RH measurement errors. Further, one-point tests may cause out-of-tolerance readings when ambient conditions change.
Compact size and lightweight for easy transport	The 5128A RHapid-Cal measures 237 mm high x 432 mm wide x 521 mm deep (9.3 in x 17 in x 20.5 in) and weighs just 15 kg (33.06 lbs). It can be easily carried to any desired bench space in the lab or transported on-site to a field work location. In comparison, a two-pressure humidity generator due to its large size is practically limited to laboratory use. It includes a generator, compressor, and supporting equipment mounted on a cart. A "small" two-pressure generator requires about eight times the area that the 5128A RHapid-Cal does and weighs about four times as much.

5128A RHapid-Cal Humidity Generator

Key features and benefits

5128A Feature	Benefit
Best-in-class humidity system accuracy of ± 1.0 % RH which includes all known sources of error such as stability, uniformity, drift, and calibration uncertainty	Calibrate with confidence using the portable humidity generator with the most comprehensive specifications.
Rapid humidity and temperature stabilization times	The materials and air flow design used in the 5128A RHapid-Cal are selected to ensure that response time to a humidity or temperature step change is fast. In the lab, the 5128A calibrates humidity probes 33 % faster than a two-pressure generator. A typical six-point calibration can be done in two hours using the 5128A RHapid-Cal. In contrast, a two-pressure humidity generator takes longer to respond to humidity or temperature changes. A similar six-point calibration with a typical two-pressure generator would take more than three hours.
Versatile design accommodates a large workload	A large variety of humidity sensors can be accommodated in the 5128A test chamber. The 5128A comes with a five-port door for calibrating up to five RH probes, meters, and transmitters at a time. An optional transparent door with a shelf is available. Data loggers are placed on the shelf inside the chamber for calibration. The mixing insert can be removed to accommodate larger devices in the chamber. The 5128A RHapid-Cal incorporates an internal probe for easy sensor calibration and to save the expense of an external reference. But an external reference, such as a chilled mirror hygrometer, can also be used to obtain lower calibration uncertainties.
ISO 17025 accredited system calibration included standard	Prior to shipment, each 5128A RHapid-Cal receives an accredited system calibration of the humidity chamber with its internal reference probe, using a chilled mirror hygrometer as the reference standard. This system calibration provides the assurance that the 5128A and its internal reference probe have been optimized for the best performance when they leave the factory. In contrast, most humidity generator suppliers only provide a reference probe calibration, but not a complete system calibration that ensures uniformity and accuracy delivered at the location of your device under test.
Easy to maintain	The 5128A RHapid-Cal uses a mixed-flow method to generate relative humidity. A desiccant cartridge provides a source of low humidity and an internal humidifier generates high humidity. A display light indicates when the desiccant cartridge needs to be replaced. The desiccant cartridge can be easily changed by unscrewing the front panel cap and replacing the old cartridge with a new one. Only clean distilled water is needed to operate the 5128A RHapid-Cal. Compressed air or other additional fluids are not required. A water level indicator on the front panel shows status of water level in the humidity generator. When the water level falls below the minimum level, use clean distilled water to fill the reservoir. No special shut-down routines are required after use, so you can move on to the next job quickly.

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Opportunities or considerations for monetization

Better productivity and efficiency: The 5128A RHapid-Cal's fast humidity and temperature stabilization reduce calibration time. In the lab, the 5128A calibrates humidity probes 33 % faster than a two-pressure generator. A typical six-point calibration can be done in two hours using the 5128A RHapid-Cal. In contrast, a two-pressure humidity generator takes longer to respond to humidity or temperature changes. A similar six-point calibration with a typical two-pressure generator would take more than three hours.

More throughput/better reliability: Handheld humidity meters such as Vaisala HM70 and Rotronic HygroPalm 23 are frequently used for spot-check, one-point probe calibration of humidity sensors in the field. The 5128A RHapid-Cal provides a more thorough multi-point calibration with several test points that gives a much truer characterization of an RH probe over its full working range. Further, the 5128A can calibrate five sensors at a time compared to a handheld meter which is limited to testing one sensor at a time.

More flexible/lower acquisition cost: The 5128A RHapid-Cal is compact and lightweight for easy transport. It can be easily carried to any desired bench space in the lab or transported on-site to a field work location. In comparison, a two-pressure humidity generator is practically limited to laboratory use due to its large size. The 5128A is far more economical than a two-pressure generator. The 5128A is about half the cost of a Thunder 2500 and about $10k less than a Thunder 1200.

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Notes

Fluke Calibration. *Precision, performance, confidence.™*

Electrical | RF | Temperature | Humidity | Pressure | Flow | Software

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