

Compact Instruments Save Space



Multiple Test Heads Mean More Versatility for the Technician

By Jack Sine

Field service technicians are always looking for ways to reduce the amount of gear they need on the job. After all, no one wants to make more trips back to the truck than they have to and everyone wants to be able to put his hands on the right tool when he needs it. A California based instrument manufacturer has gone a long way to solving that problem.

Fieldpiece Instruments of Brea, California has introduced a line of kits that includes all the instruments a technician needs to measure the parameters he most needs to do his job. And the best part is that the largest kit is the size of a briefcase and weighs only eight pounds.

Interchangeable test heads save a lot of space

“We’re the only hand-held instrument maker who designs specifically for HVAC/R field service technicians, so we ask them what they need and make it for them,” said Rey Harju, President of Fieldpiece. “One of the constant complaints we heard from the field was how much gear they had to lug around. Some would short-cut their testing if the proper instrument wasn’t available. Several years ago we started looking at how we could reduce their burden and, after some trial and error, we developed the concept of accessory test heads.”

Fieldpiece’s solution was modularity. They designed special purpose heads that slide onto a specially built, general purpose DMM. The heads are dedicated measuring units much smaller than conventional instruments. They later developed an electronic handle that converts any of the heads into stand-alone instruments.

Compact kits put everything in easy reach

Once we had developed the test heads they started looking for ways offer them to the field service technicians. They eventually decided to offer them in kit form. There are five Fieldpack kits in the line, four of them packaged in a soft-sided bag the size of a briefcase and the other in a smaller version.

The most versatile is Fieldpiece's model number HS35K31G. It contains a complete spectrum of measuring instruments and test heads. Three instruments serve as the foundation of the kit: a top of the line autoranging DMM stick meter, a data logger, and an electronic handle. Each of them accepts every one of the snap-on accessory heads.

The heads in this Fieldpack measure air velocity, air temperature, relative humidity, wet bulb, dew point, carbon monoxide, AC current, gas pressure, static pressure, vacuum (for evacuating a system), and microamps for flame rectifier diode circuits. An electronic handle makes every accessory head a standalone instrument.

The kit also includes several thermocouples specially designed for HVAC/R technicians: a pipe clamp thermocouple for taking suction line temperatures, a wet bulb thermocouple with a "sock" and alligator clip, and a beaded thermocouple with an alligator clip. The alligator clips keep the thermocouples in place during testing. All have a "wrap-tab" plug that makes it easy to store the thermocouple wire.

"It's great to have virtually every instrument you need in a small bag," said Scott Owen, HVAC instructor at Northeast Community College in Norfolk, Nebraska. "I tell my students they would need a large dolly to carry the equivalent in other instruments."

Versatile multimeter

The centerpiece of this kit is the HS35 stick meter, a complete digital multimeter that's built for safety. This new meter features autoranging that automatically changes range for best resolution. It measures volts, ohms, temperature, and capacitance for motor start/run. For safety, it includes a non-contact voltage indicator (beeper and LED) to let the user know when he's near AC voltage. It works down to 24 VAC for thermostat wire. The meter also contains a high voltage indicator (beeper and LED) that warns the user when he's in contact with a potentially dangerous voltage. For hard to reach measurements, the technician can "remote" an accessory head by removing the probe tips from the leads and connecting to the head.

The DL2 Data Logger stores 20,000 data points along with real time, not elapsed time. The technician can change the total duration of the test from one second to 999 days, and the time between each reading from one second to 999 hours. Each series of readings can be "tagged" with a label for easy identification later. Multiple data sets are easily recorded. It comes with software and a PC link cable so that data may be downloaded for future study

and analysis. The best display resolution is 0.01. Maximum reading is 1999.9. Programming and data acquisition are simple and fast. The technician simply rotates the dial to select the task he wants to perform. The labels on the dial are very easy to read and understand. Each time the dial position is changed, a new data set starts. A technician can add a reading to the data set anytime by pressing "RECORD." Both that reading and real time are recorded.

Response from the field

Tim Bridge is the service manager for Butler Mechanical Services in Cincinnati, Ohio. "We were looking for something to take super heat and carbon monoxide measurements," he said. "We went into Lute Supply in the city and they had this Fieldpack on display, the big one. I asked what it was and the guy showed me. I couldn't believe how much you could do with it. We bought it on the spot. That was five months ago and everybody loves it. This is everything we need in a nutshell. We've used on every job since we got it and we've used every feature at one time or another. To do what this Fieldpack does you'd have to buy a hundred instruments. And this kit was very reasonably priced."

Owen agreed, "You can't beat the price. Even without the discount Fieldpiece gives to schools, the cost is substantially lower than buying individual instruments from other companies."

"You can tell these things were designed for field service guys, said Bridge. "The stick meter and data logger have magnetic strips on them and fasten onto anything metal so you don't need three hands to do a job. And the alligator clips on the test leads let you concentrate on your job instead of trying to hold a lead in place."

John Shamahorn is the director of operations for Chas Roberts Air Conditioning in Tucson, Arizona and he agrees with Bridge.

"I discovered Fieldpiece at my wholesaler's. I told him I needed a new DMM and he held out a one of their meters and told me it was new on the market. I asked him if was rugged enough for HVAC and he grinned at me, threw it across the room, and bounced it off the coke machine. That was two years ago and we've been using them ever since and recommending them to our technicians. We even offer a payroll deduction plan to help them make the purchase."

It looks as if field service technicians will be able to save themselves a few more trips to the truck.

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