

Fluke 810 Vibration Tester helps keep the oil flowing

Application Note

Testing Functions Case Study



The task: keep 40 electric motors on the job, pumping crude oil, propane and other finished petroleum products down the pipeline.

That task is now easier for one 35-year industry veteran, the area logistics manager for a major oil company. For the past year he's been using the Fluke 810 Vibration Tester to diagnose issues in pumps, blowers and motors up to 3,500 horsepower that pump 8,000 barrels an hour. It's a slick solution.

"This is something I've been waiting on for quite some time," he said. "The ones we've used in the past give you the vibration signature, but you had to interpret the signature. The problem with that is you need to get that in the hands of a technician who knows how to read your signature. The neat thing about it is the Fluke will give you its idea of what it thinks is wrong," he said. "But it also gives you that signature you can give to the engineers.

"We went down to our transport station—we've got eight mainline units there—and were able to find some bearing problems on one of our units," he said. The Fluke 810 "called out for a bearing problem. Once we got the pump into the shop we found out the shaft was out of round, which took the bearing out.

"We went to our number eight pump, and it said 'motor-pump misalignment.' The coupling has a shim pack—it's kind of a flex coupling. That was on a 400 horsepower. We thought we might have a misalignment on the motor but it turned out we had a broken shim pack. We fixed it and it's still running today, with no problem. It really surprised me how it picked that one up. I don't know how it did that."

Ease of use is another advantage. "You can give this thing to just about anybody, and they can learn how to use it in a matter of a few minutes. You can log all your equipment, you can pair it up with Fluke's infrared camera and it will give you a full picture."

Today the Fluke 810 delivers results fundamental to the company maintenance program. "With the big motors, we do the vibration analysis, we look everything over on an annual basis with the Fluke imager so we can see if there's any heat rise, and we use it on all the switch gear. I call it shoot—fix—move on.

Tools: 810 Vibration Tester

Applications: Diagnose issues in large pumps, blowers and motors

Customer: Level II vibration expert, pipeline logistics manager

“A lot of companies like to bring people in who actually do the vibration analysis and thermal imaging for ‘em,” he said. “The problem is they’ll send you a report but it’s three months down the road, and here you’ve been running this piece of equipment that’s had an issue for over three months.” But with the Fluke 810, “once you’ve got your technicians trained you just shoot, fix, and move on.”

With a typical vibration program before the Fluke 810, he added, “I was spending probably \$16,000 just to do the first pass. I can put this \$8,000 piece of equipment in their hands and get the same performance.” No wonder another company site has adopted the Fluke 810, and it’s being considered for use company-wide.



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