

# Technical Bulletin 107

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## Digital Controls and Air Compressors

by Brian S. Elliott

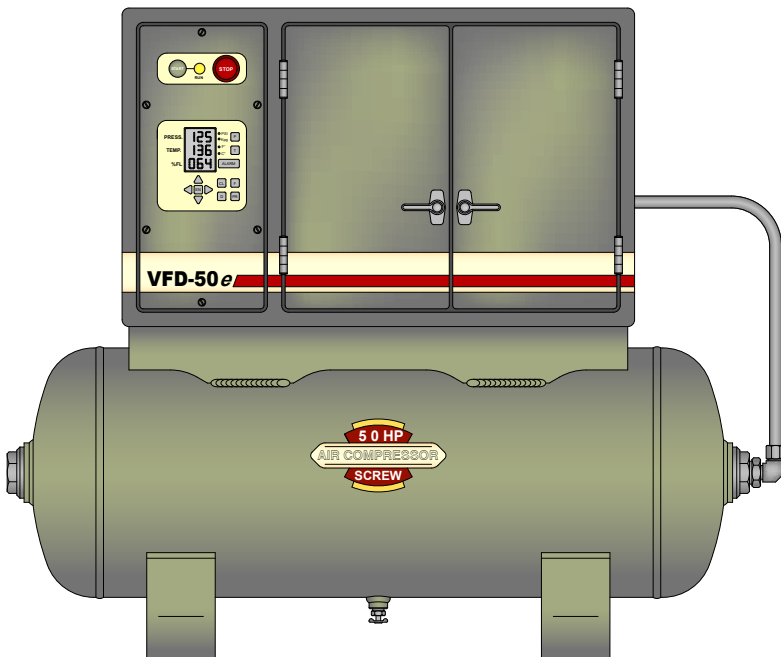
Most people would agree that the digital age has made our lives much better. Today, nearly every appliance we encounter has some sort of digital control system. Even refrigerators are being offered with Bluetooth communication. It is the nature of humans to constantly want more and more gadgetry, and computers seem to be the answer to that hunger. Our phones, our automobiles, and around the house, it seems we have a collective attitude that “more is better.” Of course, when these digital technologies break down, we find that we are helpless and totally unable to correct the problem. Instead, we find ourselves at the mercy of costly service centers that clearly prioritize their own well-being, not yours.

While this sort of situation can be tolerated in our personal lives, it is unexpected in the compressed air industry. None-the-less, most compressor manufacturers are pursuing a gadget-centric attitude towards their product lines and, as with our personal lives, they’re leaning heavily on digital technologies.

In particular, digital control panels and variable frequency drives have become very popular among compressor manufacturers. The salesman and the literature will expound on all the energy savings these high-tech compressors will produce. However, in reality, the energy savings is usually minimal.

What the manufacturer’s, sales literature, and the salesman won’t mention is just how much it costs to replace one or more of these digital controllers. The complete destruction of these digital components is just one lightning strike away. Or, they can be hit with the back EMF of a large horsepower electric motor or an arc welder in your shop. When this happens, your facility is down while you frantically try to get a service technician to come out and fix your compressor. Then the technician tells you that there’s a 3 week lead time on the parts and that they cost \$12~18,000. “But don’t worry, we can rent you a portable compressor, for the time being.” So how much energy savings did

you get from this technology advanced compressor? Nearly impossible to tell. What’s not hard to tell is just how much you’re spending on the service calls, replacement parts and rental compressor(s). And all that doesn’t even include the down time you’re enduring.



Service Calls (3):	\$ 450.00
Parts:	\$13,000.00
Compressor Rental:	\$ 3,500.00
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Total Cost:	\$16,950.00

(Estimate Based on a 50 HP Screw Compressor)

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**Advanced Technologies for Compressed Air**