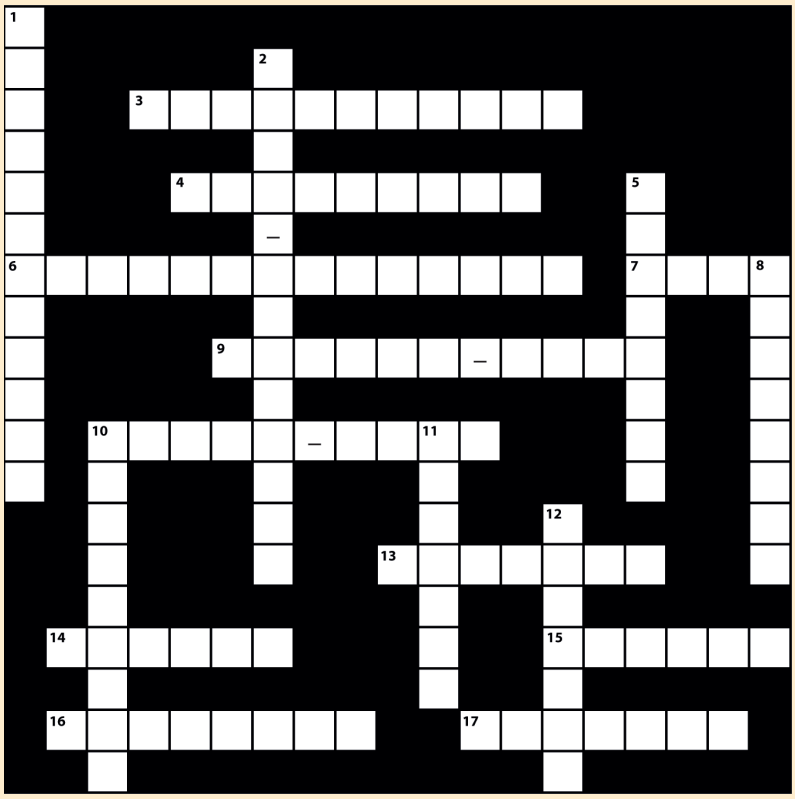
Take the HVAC CHALLENGE™

BY STEVEN G. LIESCHEIDT, P.E., CSI-CCS, CCPR

▷Testing, Adjusting, & Balancing



ACROSS

3. These are moderately priced mechanical instruments that measure both amplitude and frequency and provide a chart recoding amplitude, frequency, and actual waveform of vibration.
4. This type of varying control of the fan motor is usually the most efficient method for static control in a VAV system.
6. This can be reduced by adding vanes to break up and mix airstreams.
7. To determine the quantitative performance of equipment.
9. This type of VAV terminal uses two single-duct variable terminals.
10. This type of flowmeter is used for pipe flow measurement with the manometer type used to measure velocity head differences where they are low.
13. This type of hood is frequently used to measure device airflows such as diffusers and slots.
14. To regulate the specified fluid flow rate and air patterns at terminal equipment.
15. This type of VAV system uses a pressure-dependent damper, which on demand for heating, closes the damper to the space and opens to the return air plenum.
16. An acceptable means of establishing flow volumes only where it is required by and performed in accordance with the manufacturer certifying the equipment.
17. This type of flowmeter has lower pressure loss than the orifice plate meter because a carefully formed flow path increases velocity head recovery.

DOWN

1. These are available as inexpensive mechanic's type devices; however, modestly priced powered types electronically amplify sound and provide some type of meter and/or chart recording.
2. It is important to ensure that equipment has this capability by applying an unbalanced load, which should cause the equipment to move freely and easily.
5. This type of vane anemometer is commonly used to measure airflow from sidewall grilles.
8. A point where the controlled medium enters or leaves the distribution system.
10. An approach to and execution of a sequence of work operations to yield repeatable results.
11. To proportion flows in the distribution system according to specified design quantities.
12. This type of flowmeter is a mechanical device wherein the velocity of the liquid spins a wheel in the meter.

To brush up on the facts behind this month's clues, refer to Chapter 37 ("Testing, Adjusting & Balancing") in the *2007 ASHRAE Handbook – Applications.*

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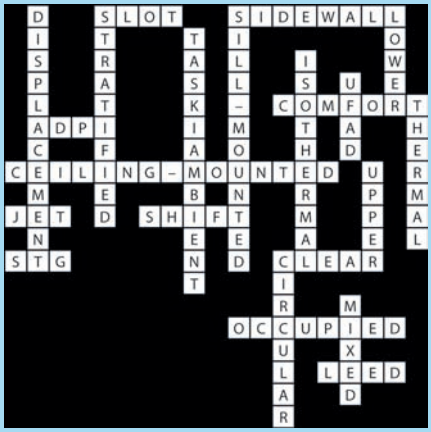
Can't wait until next issue?

Now, check out the answers for this month's "HVAC Challenge" on page 92 or check out answers from past puzzles ***on www.esmagazine.com.***

Solution to August's HVAC Challenge™