

Certification Test

HVAC Matrix Drive (eLM.Matrix.01.FansandPumps)



Taking the Certification Test

No demo unit is needed to take this test. Please record all answers on this answer sheet. Multiple-choice questions have **only one** correct answer, except where noted otherwise. Choose the best answer for each question.

A passing score is 90%.

Returning the Certification Test

Option 1: Fax this page to **Yaskawa Technical Training Services** at (847) 887-7185.

Option 2: E-mail the answers and **all** contact info below to training@yaskawa.com.

Receiving Your Score

You may review your answers only if a passing score is received. When the test is taken during class, you will receive your score as soon as it can be graded. When taken as a CLEP test or pre-requisite enrollment test, contact Technical Training Services via email or phone to receive your score.

Answer Sheet:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

Contact Information:

Name: _____ Title: _____

Company: _____ Email: _____

Address: _____

Phone Number: _____ Fax number: _____

Supervisor's Name/ Title: _____

Name of Yaskawa Rep: _____

Test Date: _____

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YASKAWA

1. What does the abbreviation kVAR stand for?
 - A. Kilovolt-amperes Reactive
 - B. kinetic Value Added Resource
 - C. kinetic Volume After Reaction
 - D. Kilovolt And Resistance

2. According to the Affinity Laws, a 10% reduction in flow will give a _____?
 - A. 73% reduction in power consumption
 - B. 27% reduction in power consumption
 - C. 90% reduction in power consumption
 - D. 10% reduction in power consumption

3. A benefit of using a standard VFD on a fan or pump application is?
 - A. Wide speed range
 - B. Lower inrush current
 - C. Easy network integration
 - D. Keypad messages with status
 - E. All of the above

4. An inlet guide vane can offer the same efficiency at 60% flow rates as a standard VFD?
 - A. True
 - B. False

5. Which feature of the matrix drive allows the drive to regenerate power back to the line?
 - A. Three wires in and three wires out power wiring
 - B. The ECO mode
 - C. The nine bi-directional switches
 - D. Keypad with full monitoring capabilities

6. What is the approximate amount of current distortion on the input to a matrix drive?
 - A. 88%
 - B. 33%
 - C. 6 to 12%
 - D. 3 to 5%

7. The ECO mode, though useful, must be manually engaged and disengaged.
 - A. True
 - B. False