

Work Session

TDP-613 Fans in VAV Systems

1. True or False? The drive losses in an eddy current coupling are less than that in a VFD.

2. Which method of fan modulation for VAV applications is most popular and why?

3. True or False? VAV systems have the ability to track changes in building loads.

4. Which method of fan modulation has the lowest first cost and why?

5. Discharge dampers are used with which type of fan?
 - a. Airfoil
 - b. Forward-curved
 - c. Plenum
 - d. Axial
6. Can you “ride the fan curve” with an airfoil wheel? Why or why not?

7. Write the fan law that represents the relationship between horsepower and cfm. _____

Why is this important for VFD use?

8. How do inlet guide vanes (IGVs) work?

9. True or False? Part load stability on a VFD-equipped fan can be checked on manufacturer’s computerized fan selection software. _____
10. Which fan volume control method must absorb the excess static pressure that is generated during part load operation?
 - a) Discharge damper
 - b) VFD
 - c) Eddy current clutch
 - d) Inlet guide vane

11. What method of fan volume control is used most often with axial fans?

12. The best overall method of fan modulation in VAV systems is

- a) VFD
- b) Eddy current coupling
- c) Riding the fan curve
- d) Discharge dampers

13. True or False? An airfoil type centrifugal fan is a non-overloading fan. _____

14. True or False? Inlet guide vanes impose an additional external resistance on the fan operation.

15. When should a return fan be used?
