Finding Savings Opportunities
Motors and Flow Inducing Equipment
(Fans, Pumps, Blowers, etc.)
Module 13 of 30

Learning Objectives

- To describe a method for assessing savings opportunities in motor driven systems
- To identify common opportunities in motor driven systems

Agenda

- Overview of the Motor Driven System
- Approach to Opportunity Identification
- Electric Motors and Efficiency
- Motor Speed Control
  - Application of Fan and Pump Laws
  - Performance Curves
  - Opportunities
- Reducing Waste and Pressure Losses
- Motor Management
How Efficient is this System?

System Efficiency = 20%
Activity 2

Demonstration Pump System
Speed Reduction
Case: Replace Dampers With VFDs

Situation:

- Plant ventilation systems with supply and return air fans controlled by dampers to provide conditioned, filter air at set RH.
- Selected fans run at full speed, no dampers
- Selected fan damper replaced with VFDs

- 59% energy savings
- 1,579,000 kWh saved
- 189 kW demand reduction
- 1.3 year simple payback