

# Equipment III Dryers

## Course Objectives

1. Describe the purpose and function of a dryer.
2. Describe typical applications of dryers in chemical processing.
3. Distinguish between the different types of dryers.
4. Explain the function of auxiliary or support equipment to the function of dryers.
5. Identify typical operating parameters associated with controlling a dryer.
6. Describe common performance issues related to dryers including their causes and indicators.



## Key Terms (Define the following)

recupertor - \_\_\_\_\_  
\_\_\_\_\_



## Principles Dryers

Direct	Indirect
Tray	Tray
Rotary	Rotary
Conveying	Double Cone
Spray	
Fluid Bed	
Fluidized Spray	
Flash	
Ring	



## Questions

1. What is the difference between direct and indirect drying? Give a real-life example of both.

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2. Describe what occurs during each of the three phases of drying a product.

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3. List the two formulas for determining the percent of moisture in a sample.

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4. List five types of direct dryers.

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5. What is the difference between a flash dryer and a ring dryer?

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6. List three types of indirect dryers.

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7. What is the difference between a direct contact and an indirect contact rotary dryer?

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8. Why is batch vacuum drying considered a rate-limiting step for product production?

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9. Explain the difference between a closed-cycle and an open-cycle drying system.

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10. List common operating parameters of a continuous dryer.

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11. List three things that can cause the product from a dryer to be too moist.

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2) \_\_\_\_\_

3) \_\_\_\_\_