How to Read a Fan Curve

DAY IN. DAY OUT.

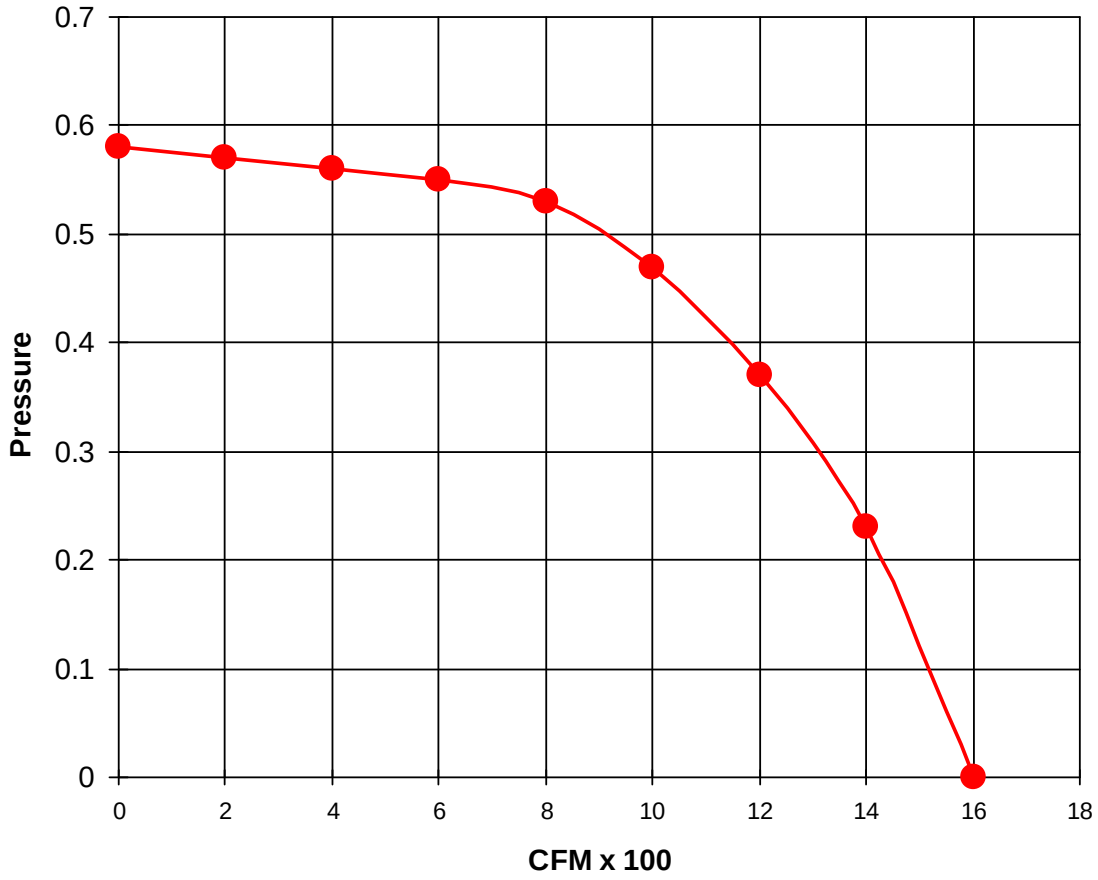
Dayton

Fan Curves

Three main components

- CFM
- Static Pressure
- Brake Horsepower

Fan Curve
(Pressure to CFM relationship)



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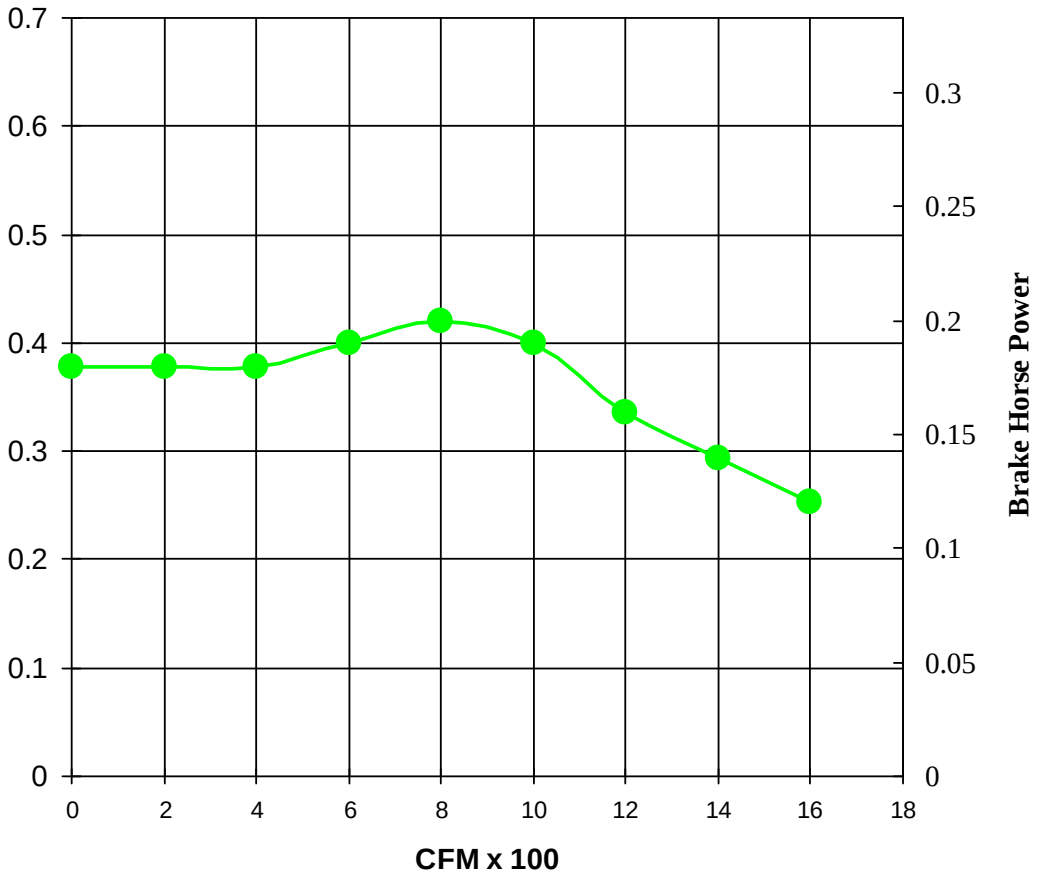
Brake Horsepower Curve
(CFM to BHP relationship)



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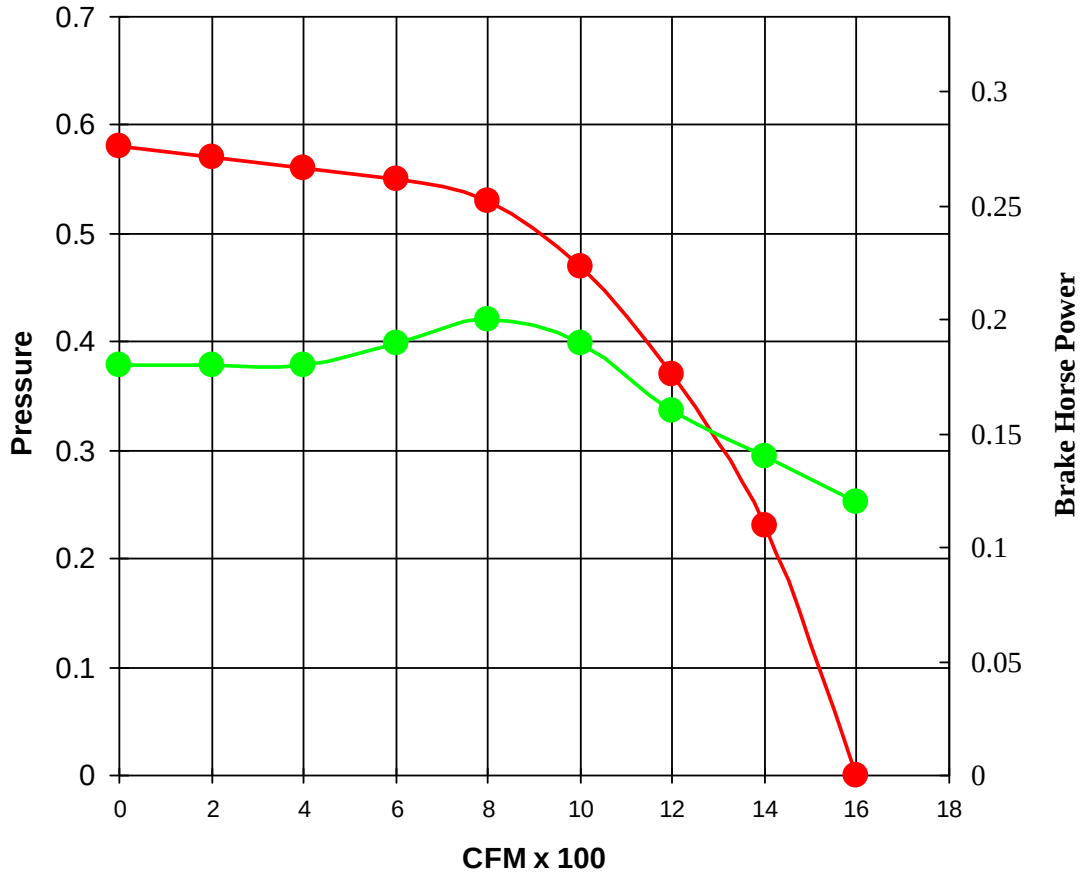
Typical Fan Performance Curve



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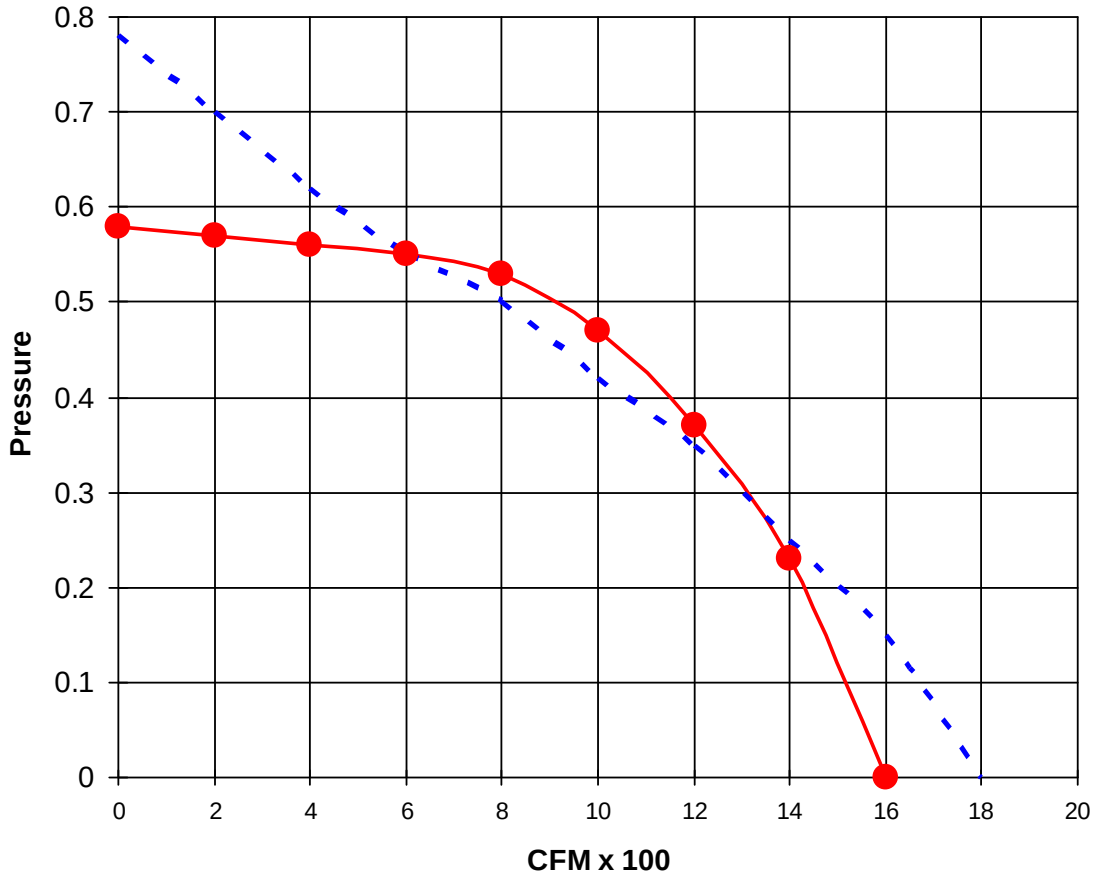
Constant Horsepower Curve



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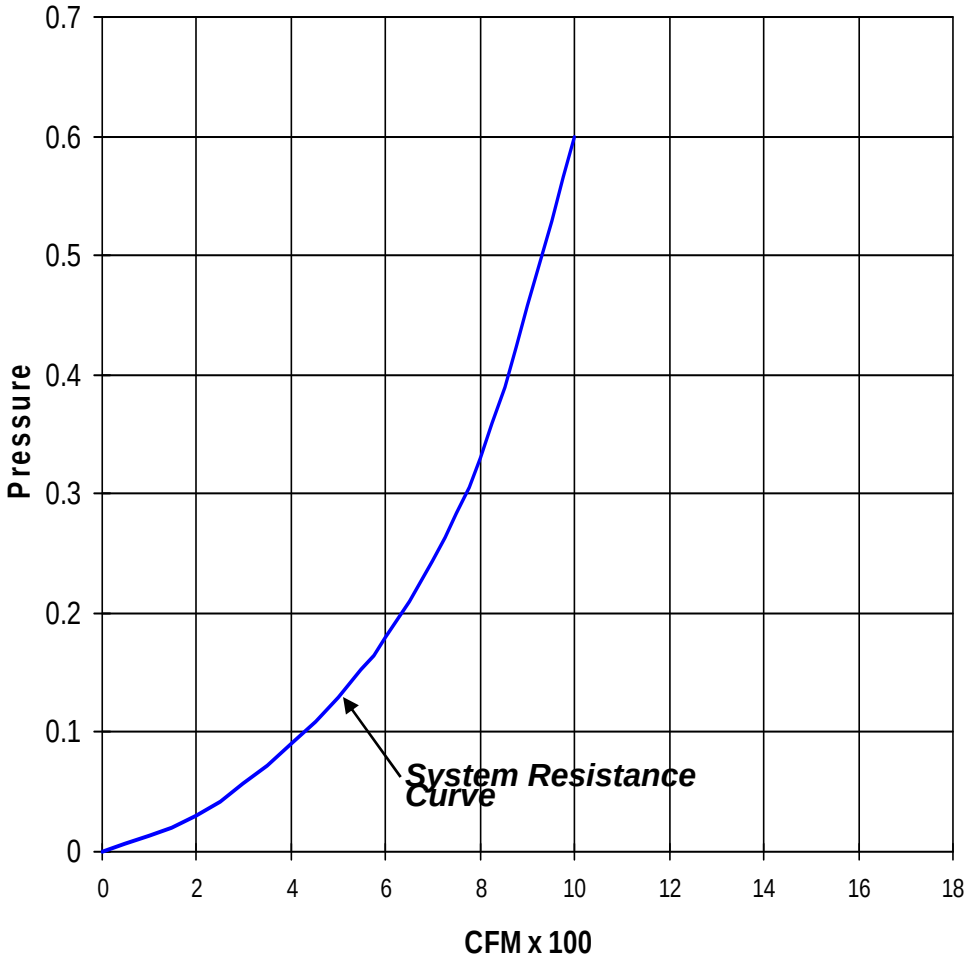
Typical System Resistance Curve



Sum of all system components:

- Ductwork
- Elbows
- Transitions
- Filters
- Coils
- Dampers
- Louvers
- Building pressure

$P_s = k * CFM^2$

Pressure Increases with the Square of CFM!

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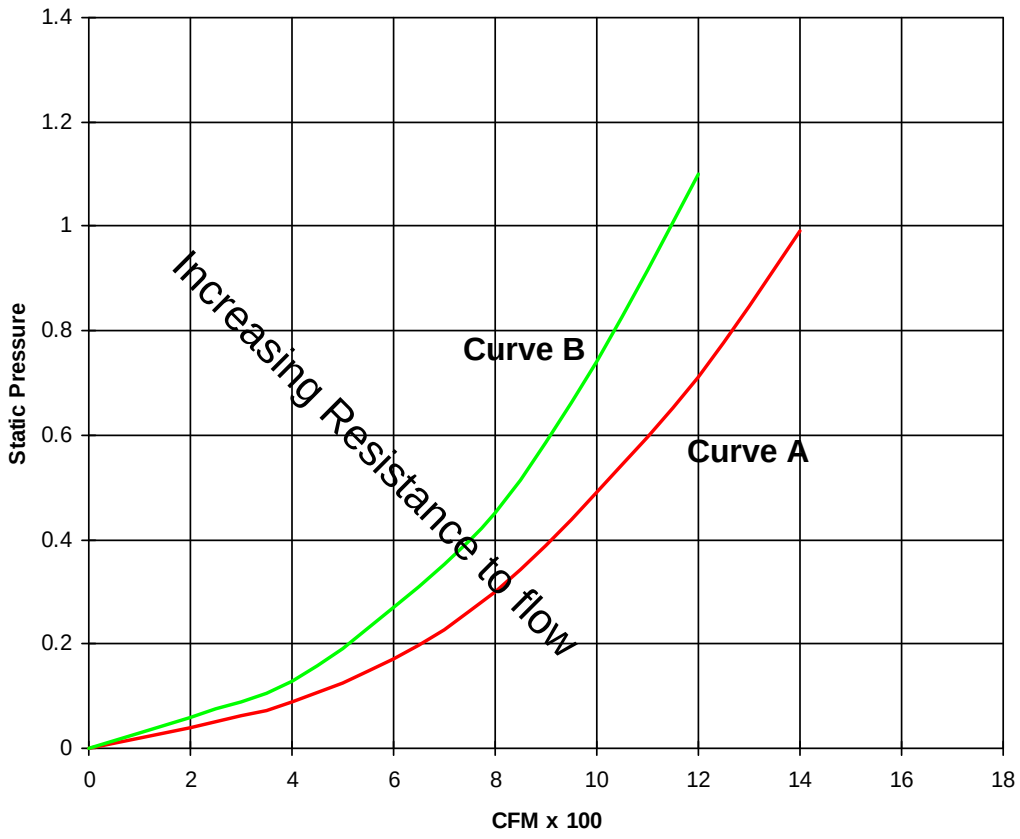
Varying System Resistance Curve



Going from curve A to curve B is an example of a system that a damper closes or filters get dirty.

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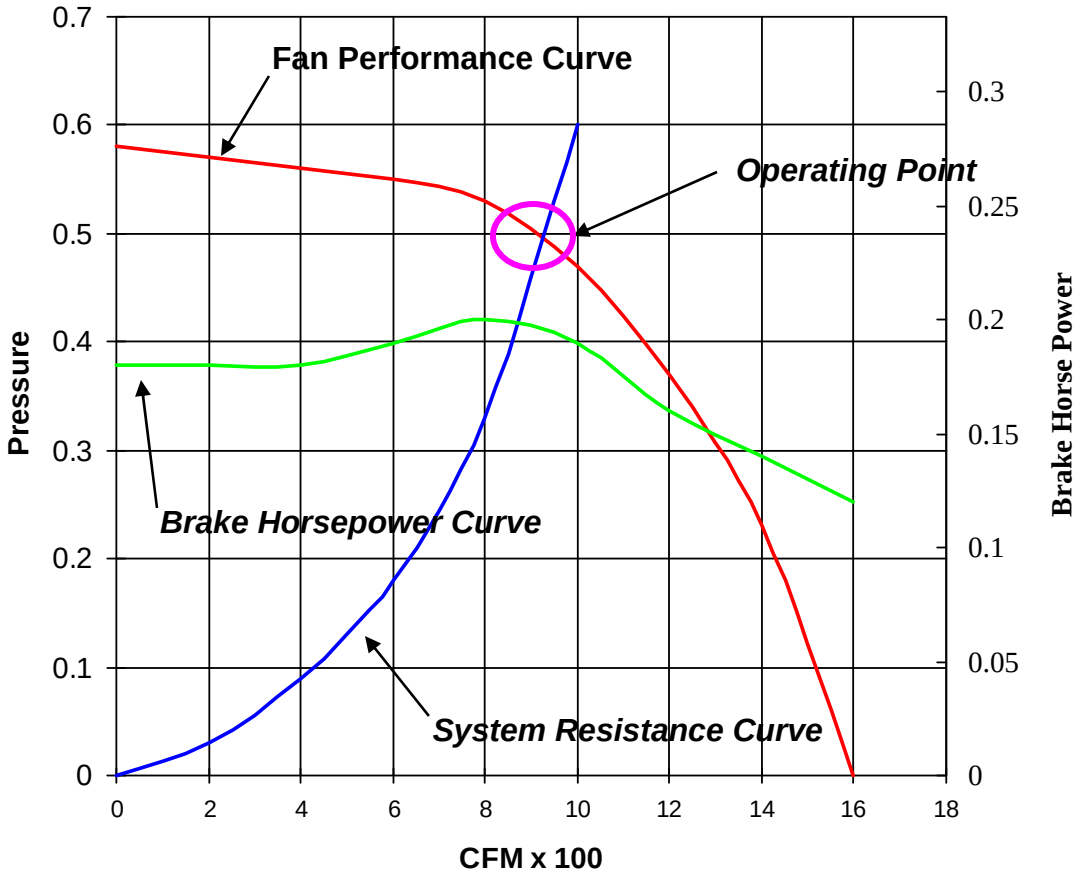
Operating Point



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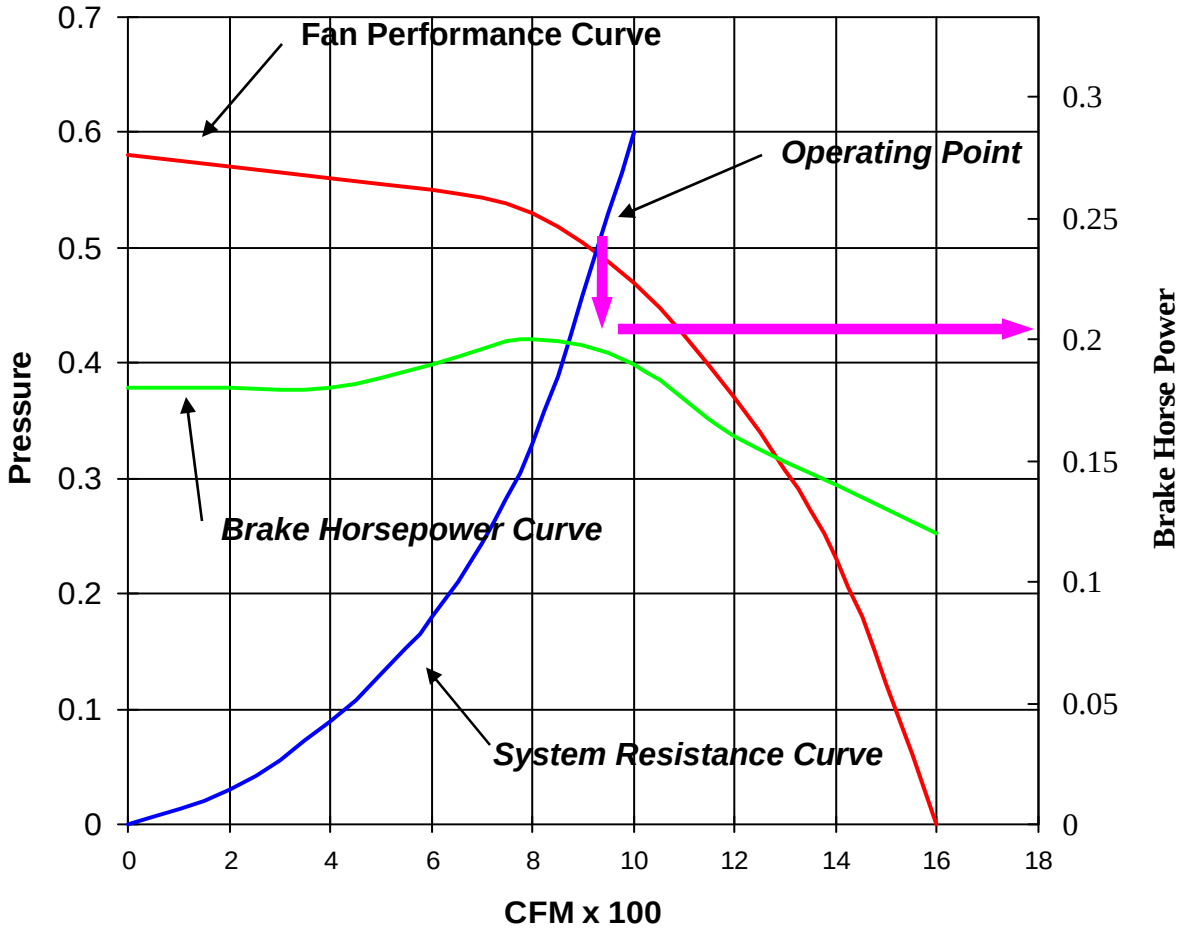
Reading BHp Curve



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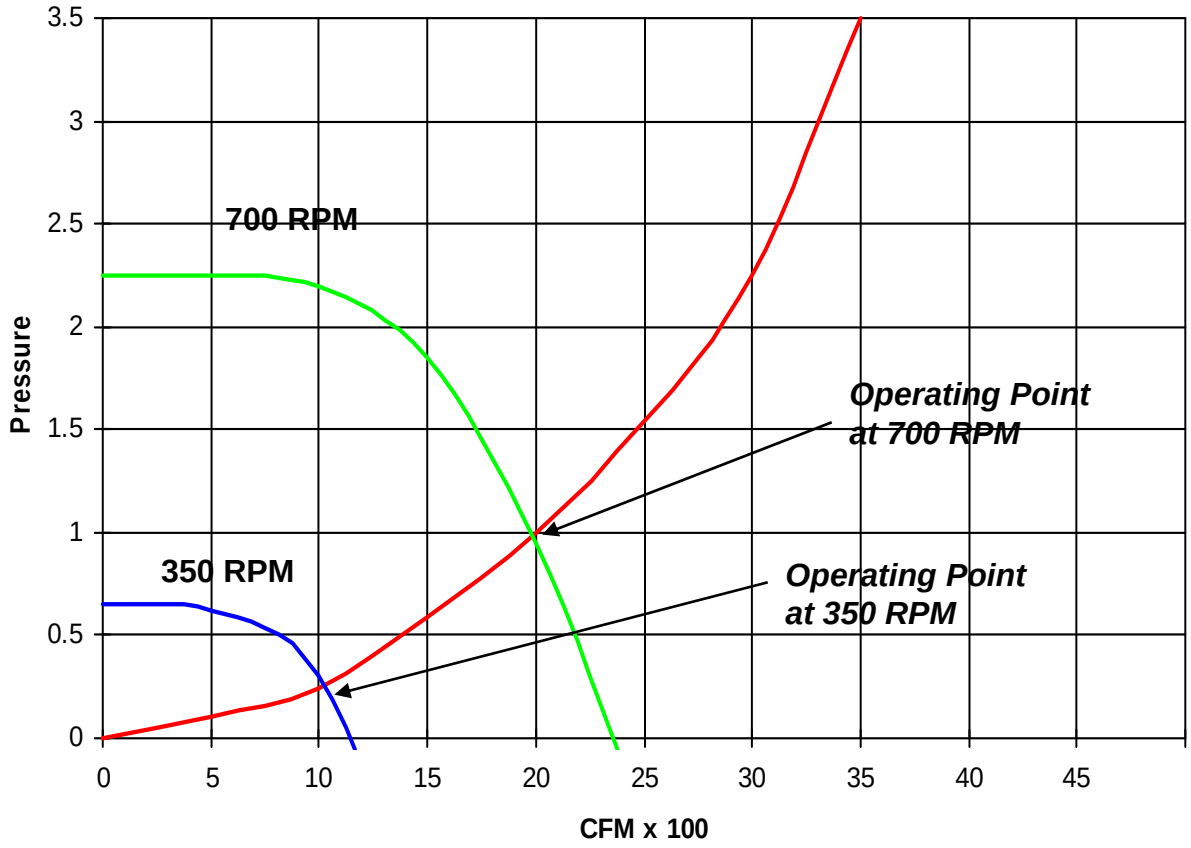
Varying Operating Points



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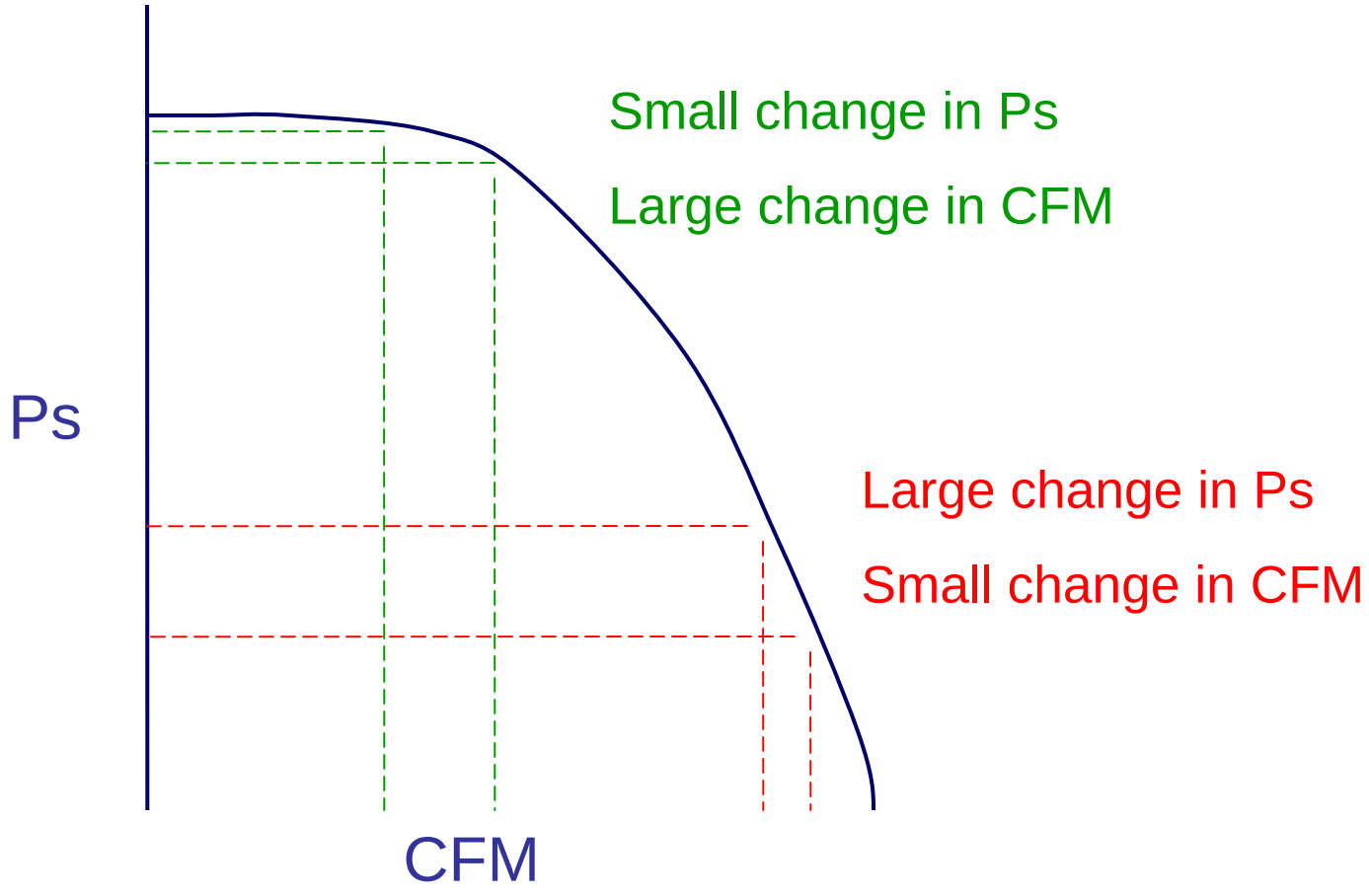
Selecting Point of Operation



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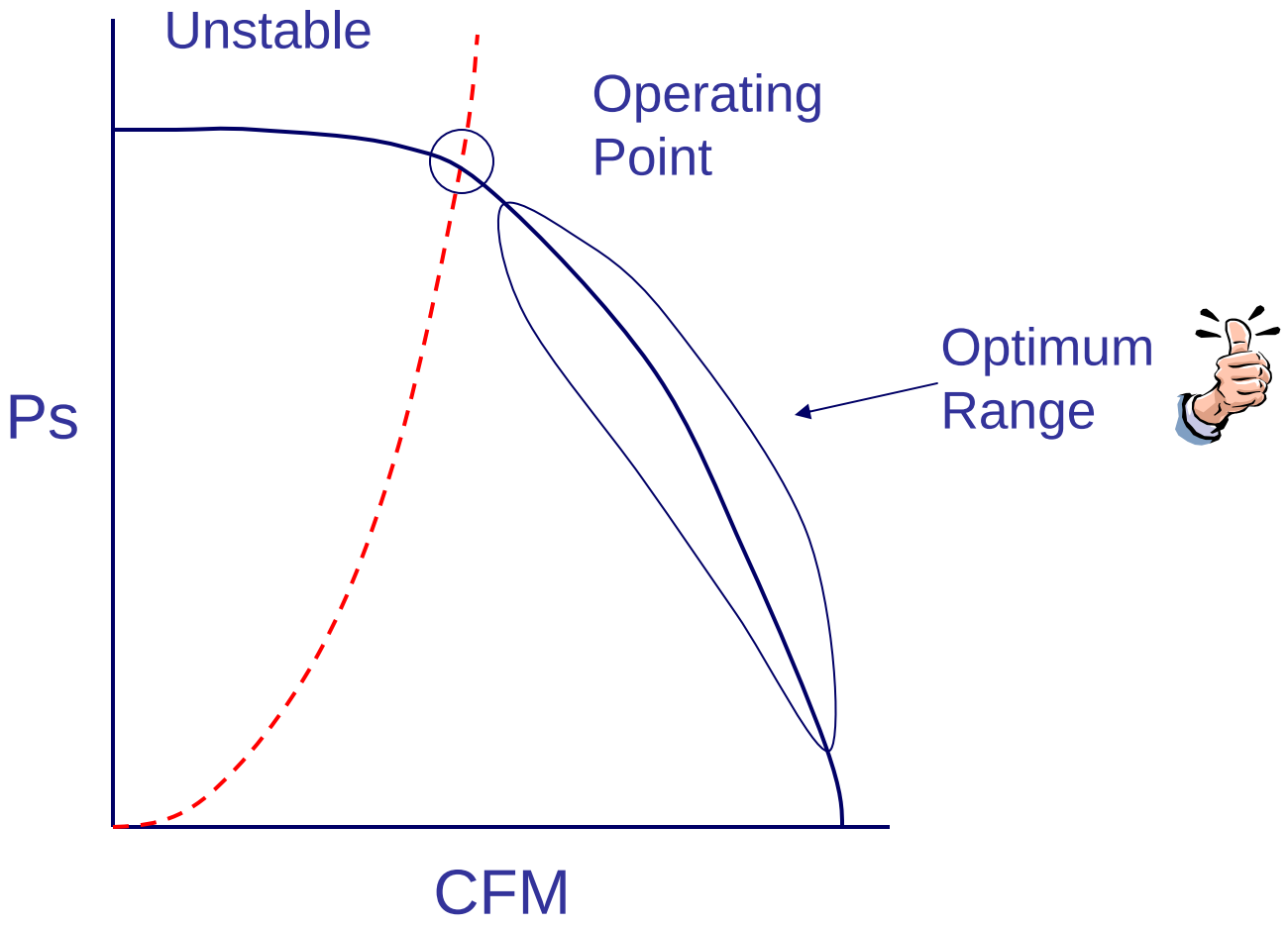
Selecting Point of Operation



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