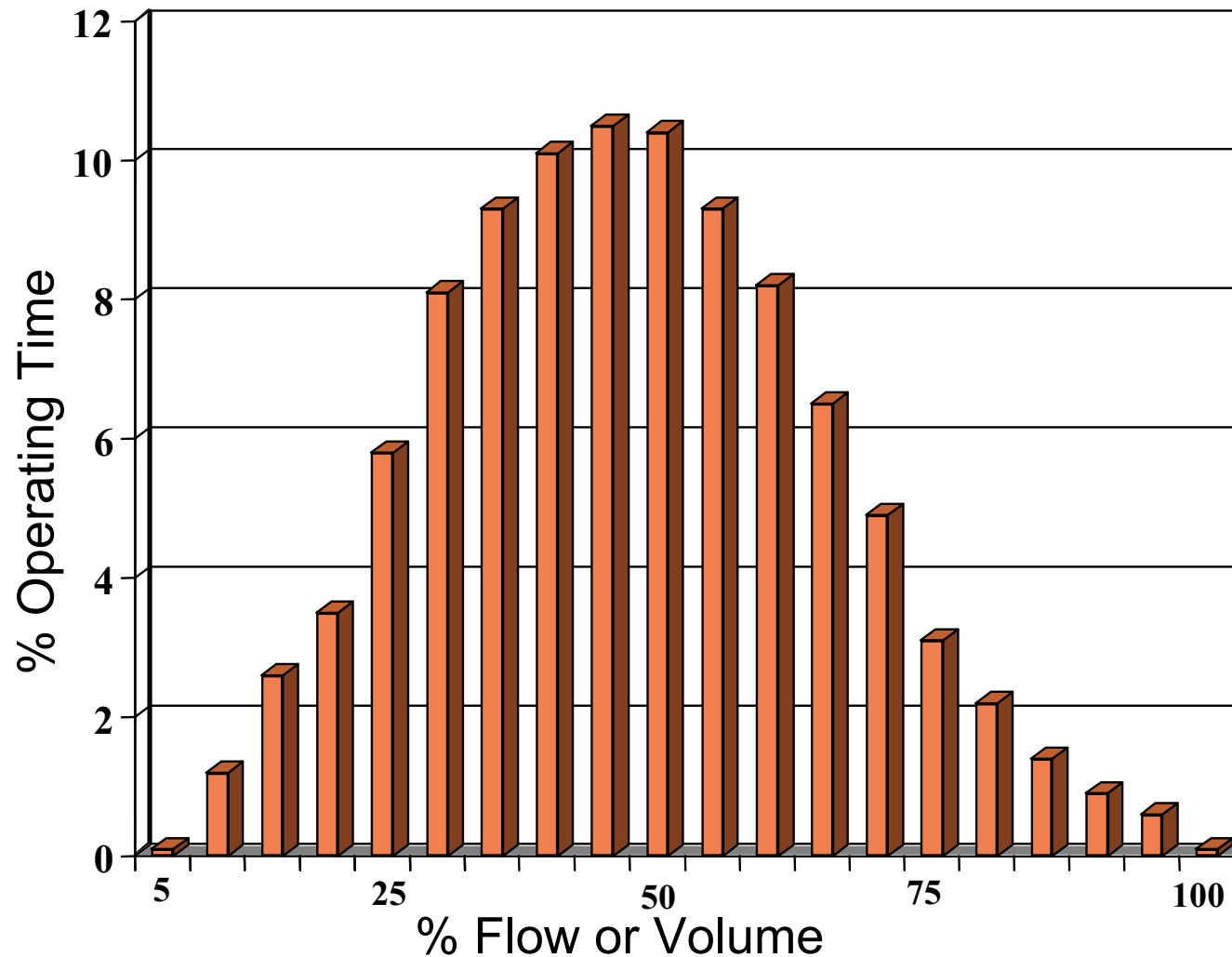


Honeywell NX Series

Typical HVAC System Load Requirements



Data Supplied by the U/K Dept of Trade & Industry.

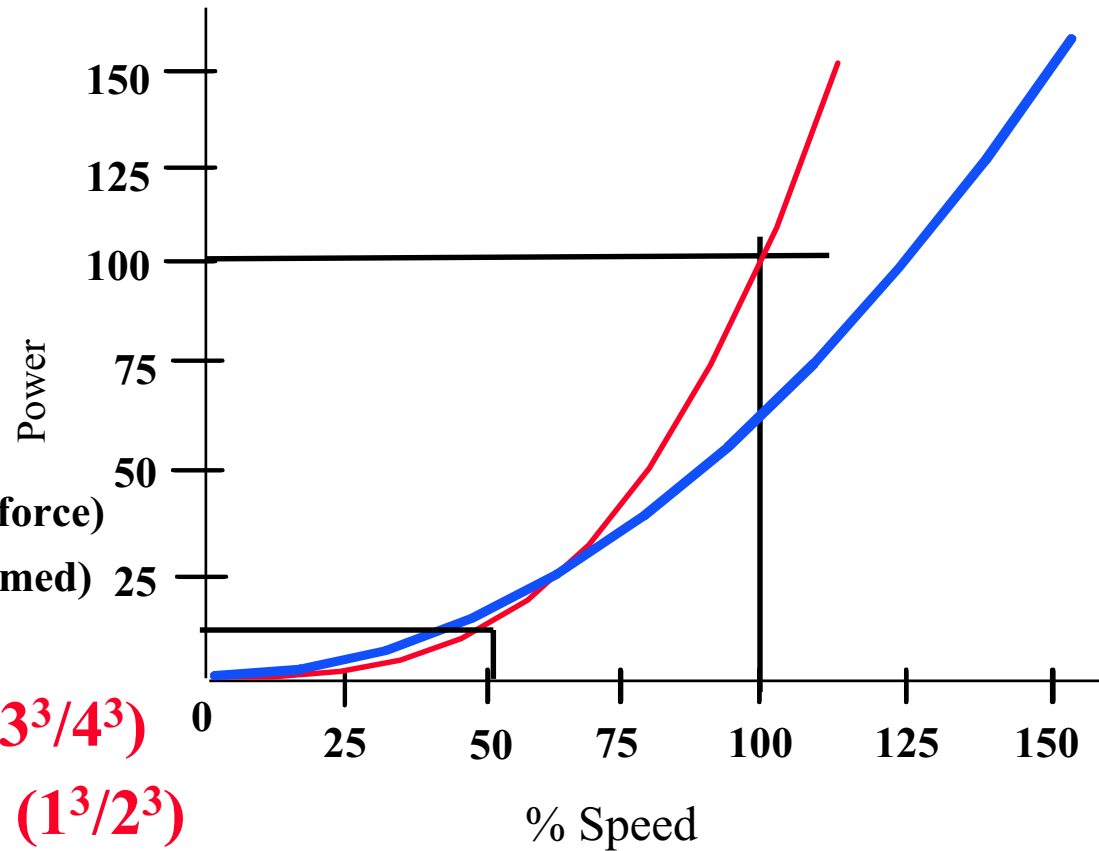


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Cubed Exponential Load – Affinity Laws: power is proportional to the change in speed cubed

Centrifugal pumps and fans operate like this. Power requirements change sharply with small speed changes.

— Torque (mechanical force)
— Power (energy consumed)



75% speed = 42% power ($3^3/4^3$)

50% speed = 12.5% power ($1^3/2^3$)

(theoretical power reduction)

Reduced speed = HUGE \$ Savings

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Opportunities :-

- Over 60% of industrial electricity demand is for driving electric motors.
- A large proportion of this is for driving fans & pumps.
- Typical energy savings on fan & pump application is **50%** - with a pay-back of less than **1 YEAR !!**
- Many utilities provide additional incentives to install VFDs – e.g NYSERDA, California, Xcel Energy, many more

