

EK 335

Introduction to Environmental Engineering Science

Text

“Introduction to Environmental Engineering and Science”
by Gilbert M. Masters, Prentice Hall

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Course Grading

- Self-Study (Engineering Solutions to an Environmental Problem)
 - Oral Presentation (15 Minutes): 20%
 - Starts Feb. 2, two presentations per day
- Homework: 10%
- Test 1: 20% (Feb. 23, 2010)
- Test 2: 20% (March, 30, 2010)
- Final Exam: 30% (University Schedule)

Semester: Spring 2010		
ENG EK335 A1		
Student Name	Class Yr	Presentation Dates
Al-Husseini,Shoukry,Ishaq	Senior	2-Feb
Babaniyi,Olalekan,Adeoye	Senior	2-Feb
Belmonte,Peter,Holland	Senior	4-Feb
Bogoian,Jeffrey,Charles	Senior	4-Feb
Briggs,Kathryn,Elizabeth	Junior	1-Apr
Burriola,Richard,Adam	Senior	9-Feb
Canham,Amy,ECanham,Amy,E	Junior	1-Apr
Chatham,James,Manning	Grad 1st	6-Apr
Chin,JustinChin,Justin	Senior	9-Feb
Docherty,Sean,Patrick	Junior	6-Apr
Foley,Daniel,John	Senior	11-Feb
Going,Louisa,Marie	Soph	20-Apr
Hathaway,Michael,Gerard	Junior	8-Apr
Hernandez,William,Joseph	Senior	11-Feb
Hulli,LeonHulli,LeonHulli,Leon	Senior	18-Feb
Jahnke,Charles,Arthur	Senior	18-Feb
Kocher,Sean,Petras	Junior	8-Apr
Lynch,Brian,Robert	Junior	13-Apr
Magis-Agosta,Jesse,Daniel	Senior	25-Feb
Marat,YerzatMarat,Yerzat	Senior	25-Feb
McDade,Daniel,Robert	Junior	13-Apr
McDowell,Patrick,Robert	Senior	2-Mar
Miklos,Laura,Yolanda	Senior	2-Mar
Miller,Denise,Elizabeth	Senior	4-Mar
Pyun,JoannaPyun,Joanna	Senior	4-Mar
Sadder,Omar,Ryan	Senior	16-Mar
Schein,Jeremy,Brian	Senior	16-Mar
Schmitt,Michael,Douglass	Junior	15-Apr
Srinivasan,Nikhilesh	Senior	18-Mar
Uwilingiyimana,Jean,Bertrand	Junior	15-Apr
Vanguilder,Jeffrey,David	Senior	18-Mar
Widzinski,Christopher,Edward	Junior	20-Apr
Wolfson,Jill,Sarah	Senior	23-Mar
Wong,Tat,ChiWong,Tat,Chi	Senior	23-Mar
Worth,Sterling,Ngo-Chi-hieu	Senior	25-Mar
Xiao,WenXiao,WenXiao,Wen	Senior	25-Mar

Syllabus for EK 335: Introduction to Environmental Engineering Science

4 hours/week

- | | |
|---|-----------|
| 1. Mass and Energy Transfer | 1 week |
| 2. Environmental Chemistry
Inorganic Chemistry
Organic Chemistry
Nuclear Chemistry | 1.5 weeks |
| 3. Growth Models
Resource Consumption
Population Growth
Economic Growth | 1 week |
| 4. Risk Assessment
Hazard Identification
Dose-Response Assessment
Exposure Assessment
Risk Characterization
Comparative Risk Analysis | 1.5 weeks |
| 5. Water Pollution
Water resources and pollutants
Oxygen demand
Pollutant transport
Water and waste water treatment
Legislations | 2.5 weeks |
| 6. Air Pollution
Emissions overview (industry, transportation, commercial and residential)
Legislations
Criteria and Toxic Air Pollutants
Pollution modelling
Pollution Control
Air pollution and Meteorology | 2.5 weeks |
| 7. Global Change
Greenhouse effect and global temperature
Carbon, nitrogen, and oxygen cycle
IPCC Emissions Scenarios
Oceanic changes and changes in the stratosphere | 1 week |
| 8. Solid Waste Management and Resource Recovery
Life-Cycle Assessment
Source Reduction including a discussion of the RoHS Directive
Collection and Transfer Operations
Recycling
Waste to Energy Conversion
Landfills | 2 weeks |

Text: Gilbert M. Masters and Wendell P. Ela, Introduction to Environmental Engineering and Science, 3rd edition (2008), Prentice Hall, Upper Saddle River, NJ.

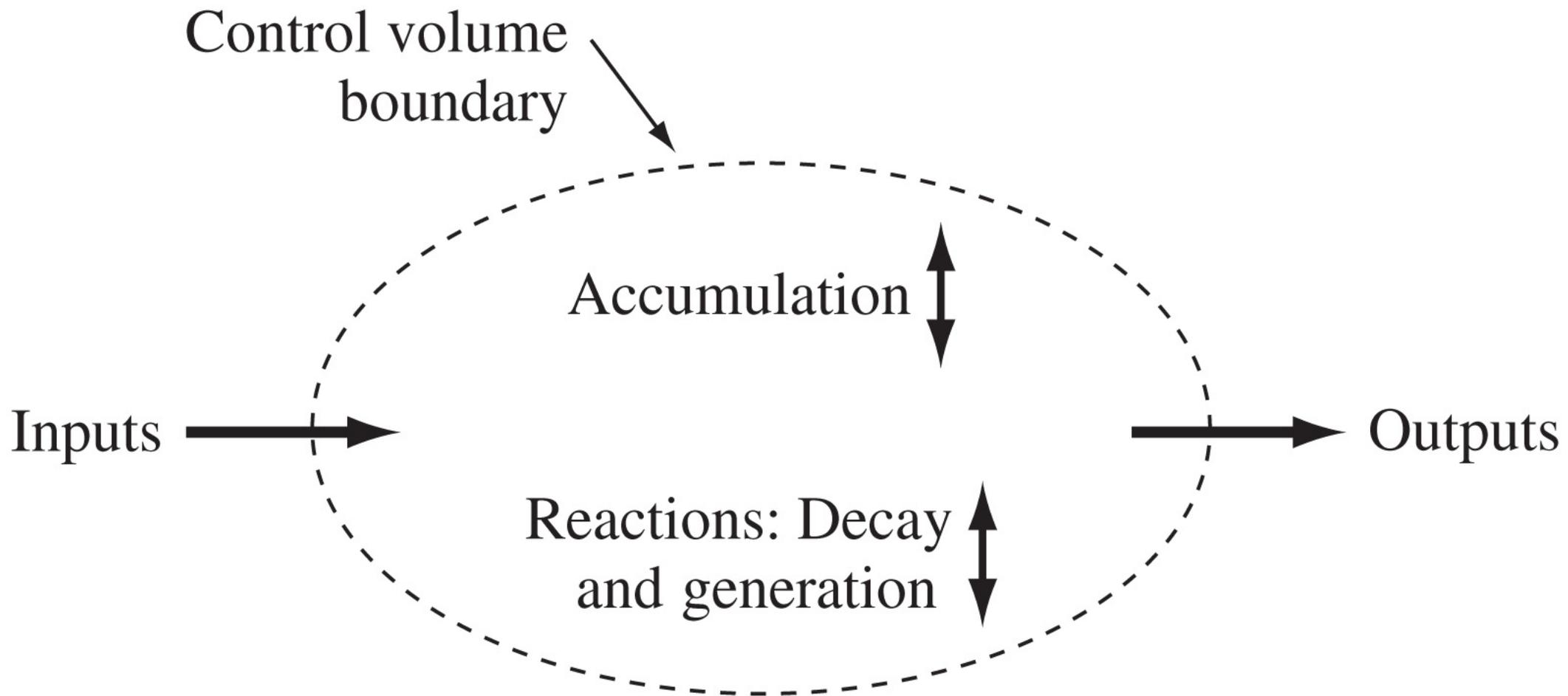


Figure: 01-01

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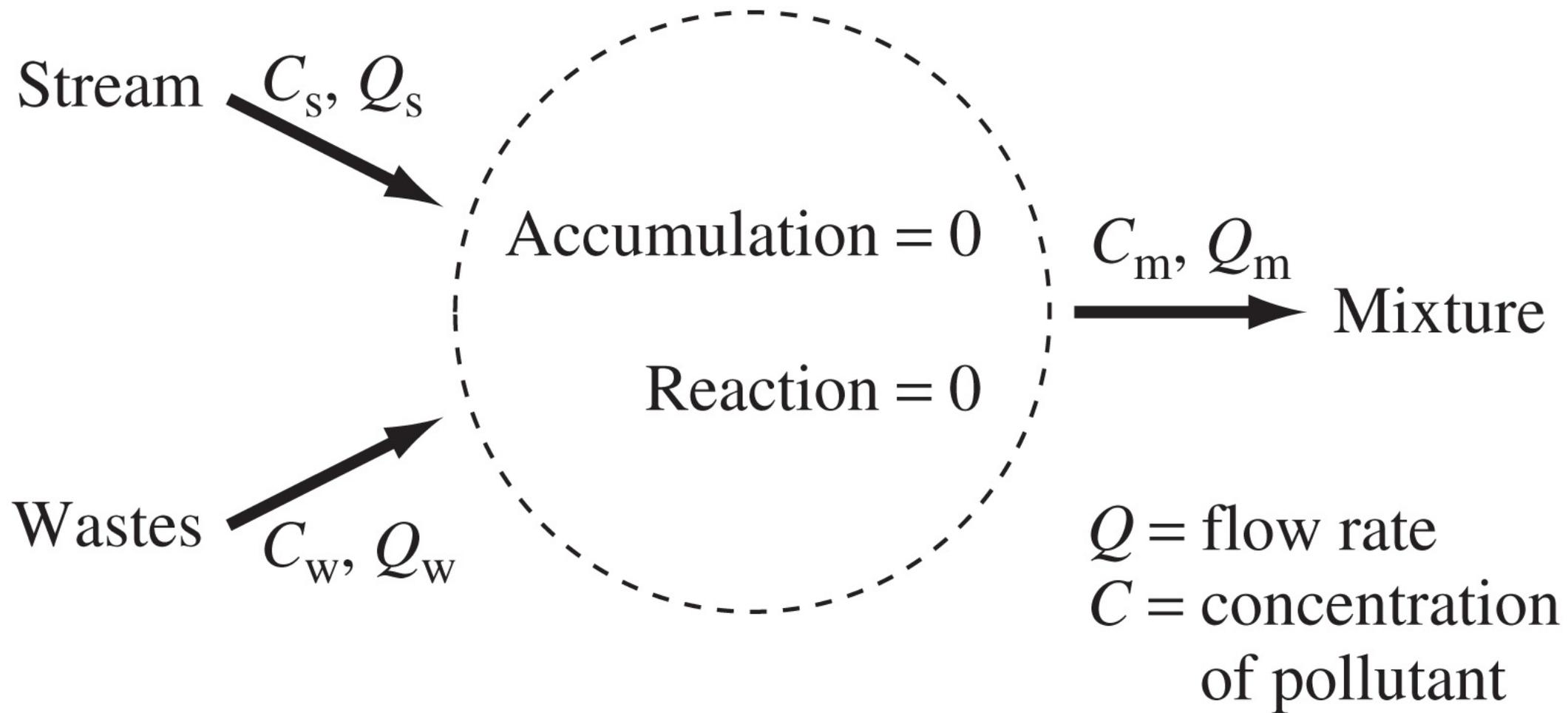


Figure: 01-02

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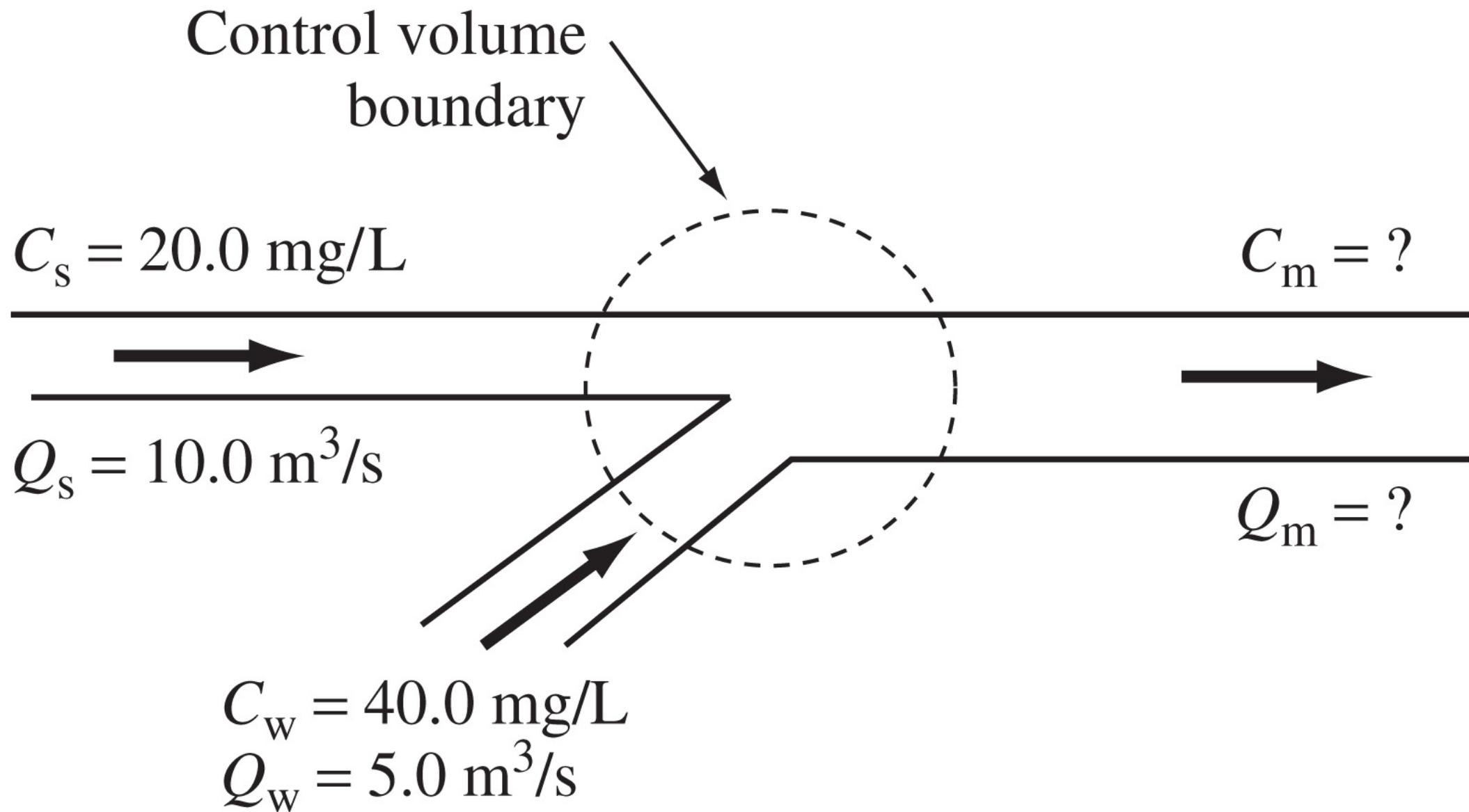


Figure: 01-03

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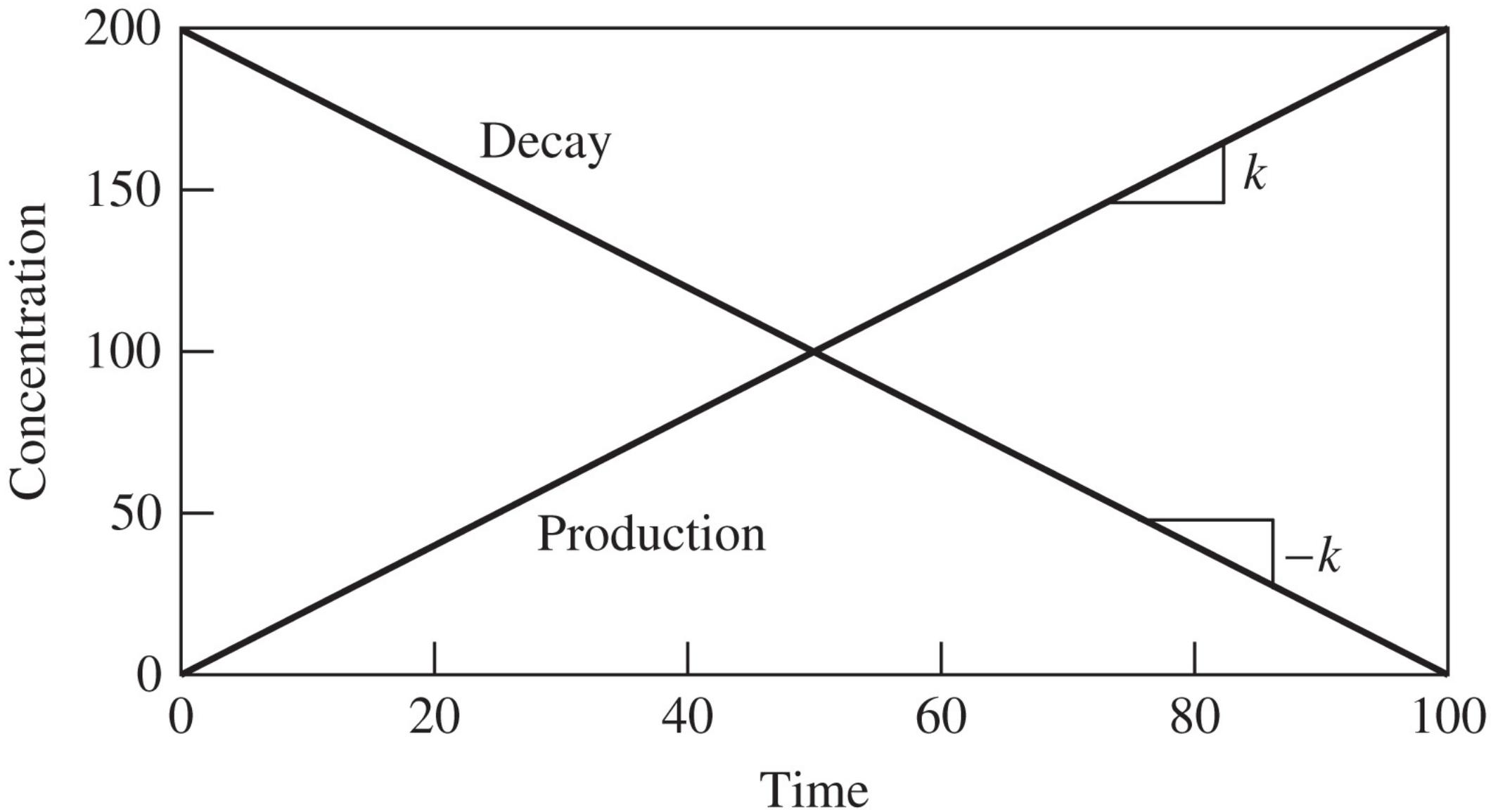


Figure: 01-04

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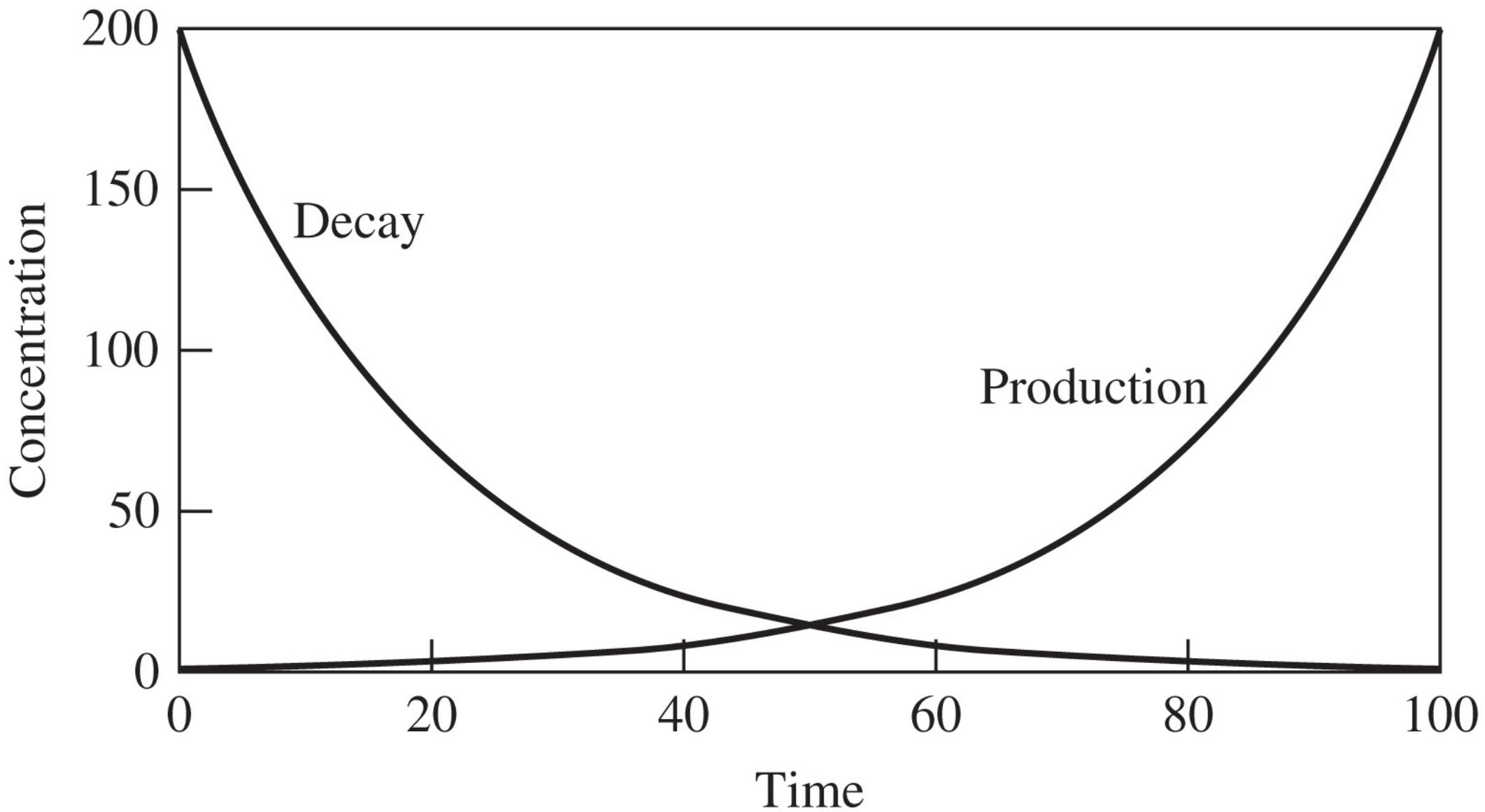


Figure: 01-05

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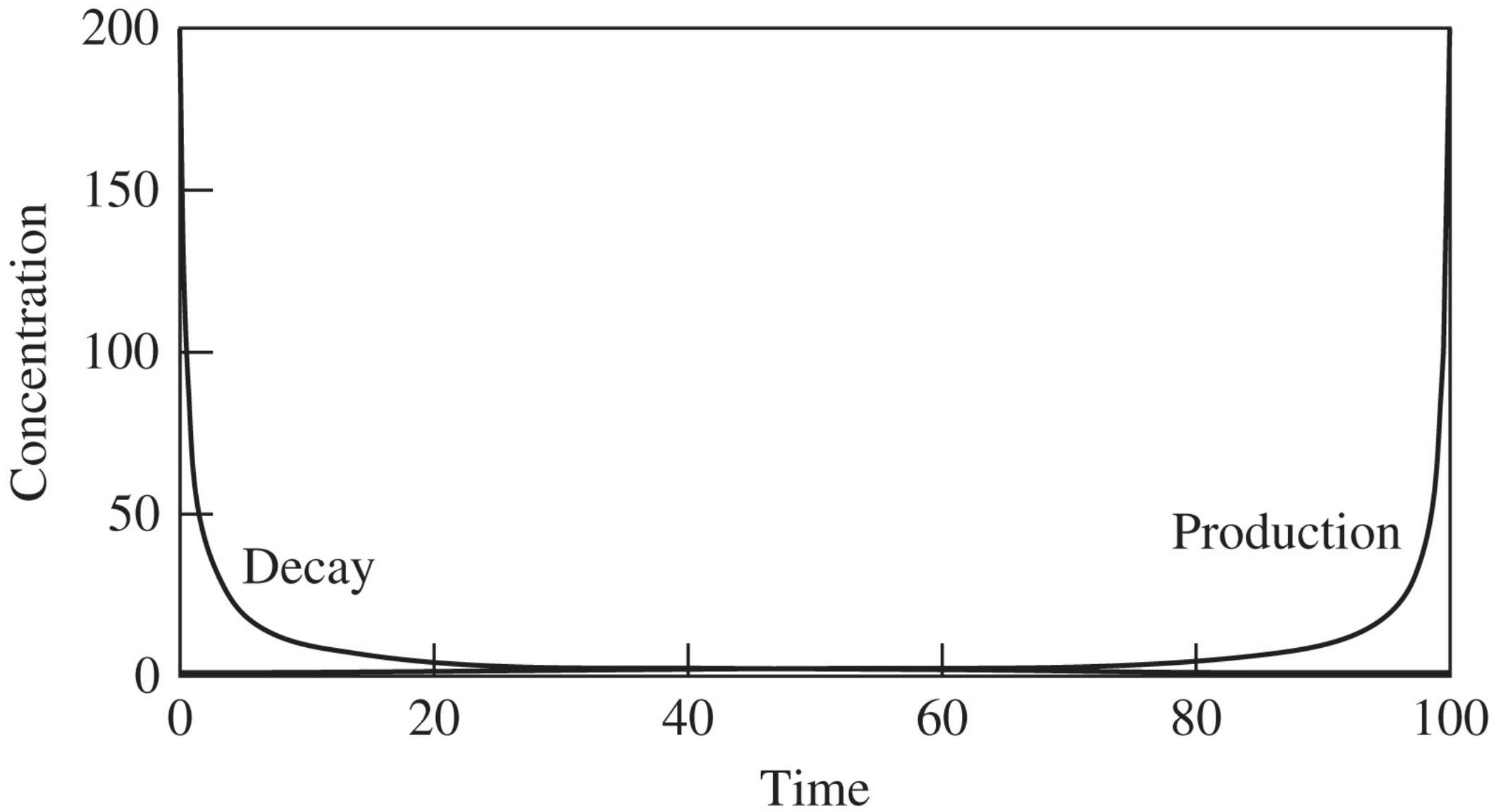


Figure: 01-06

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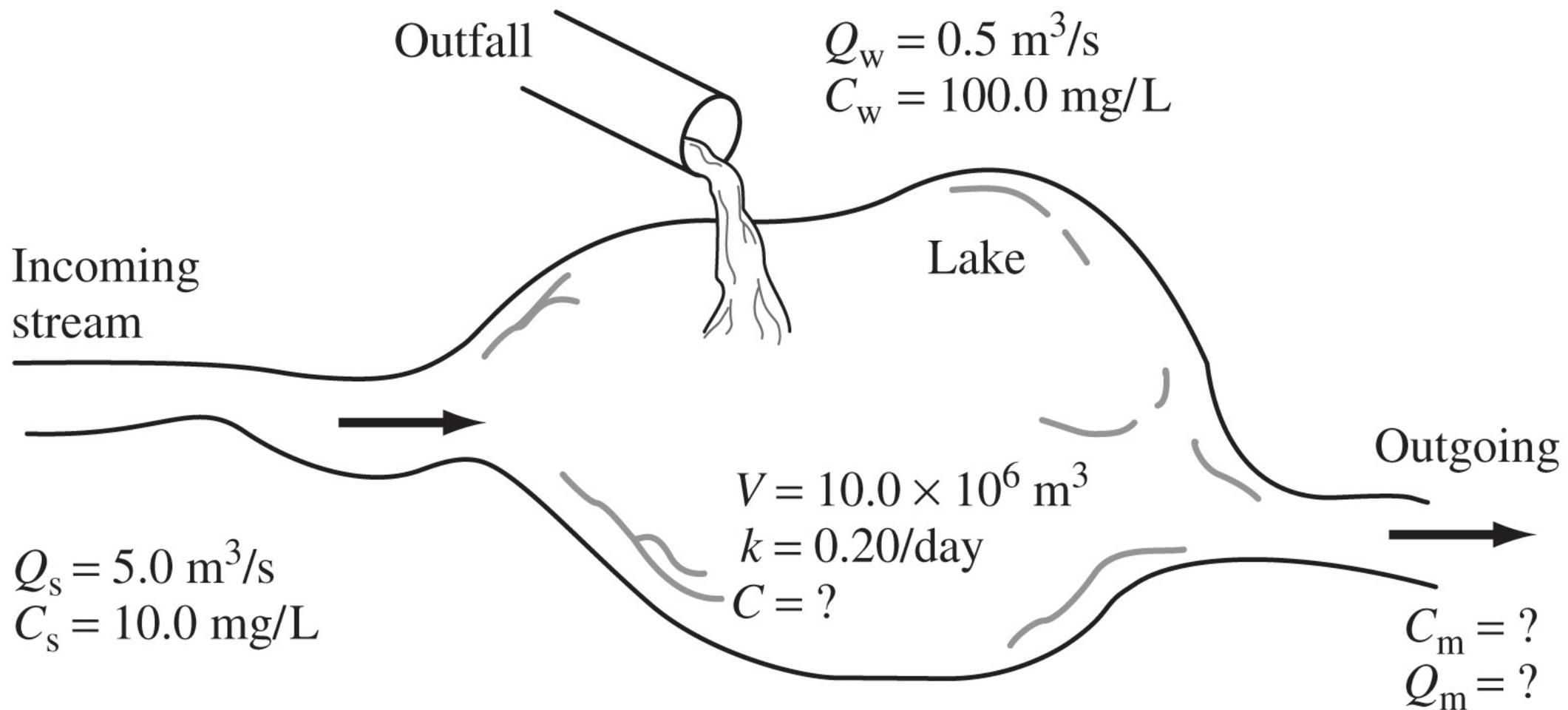


Figure: 01-07

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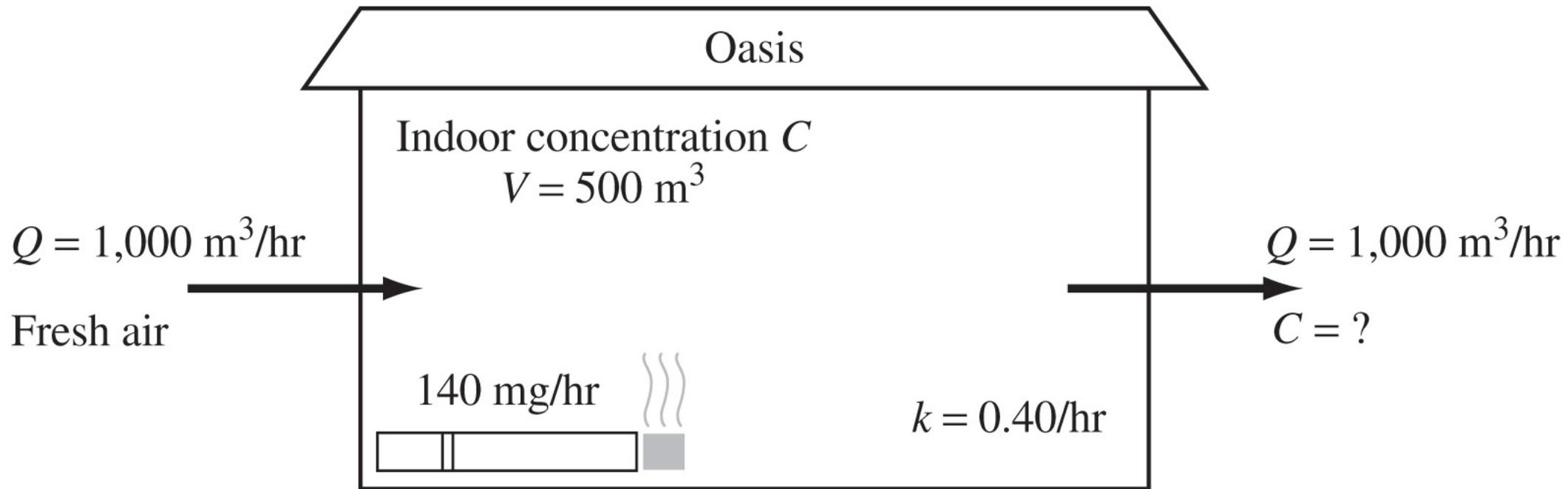


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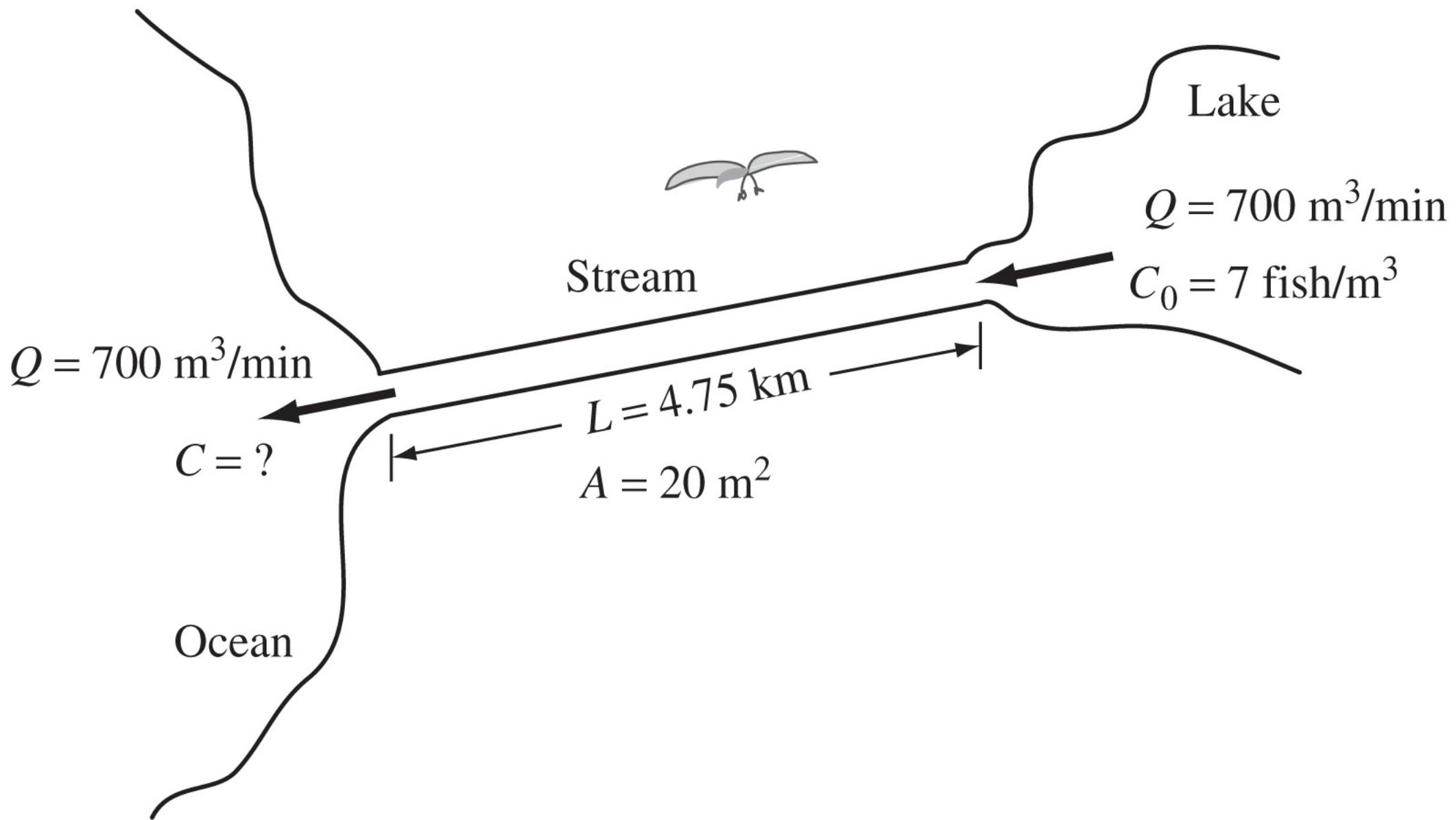


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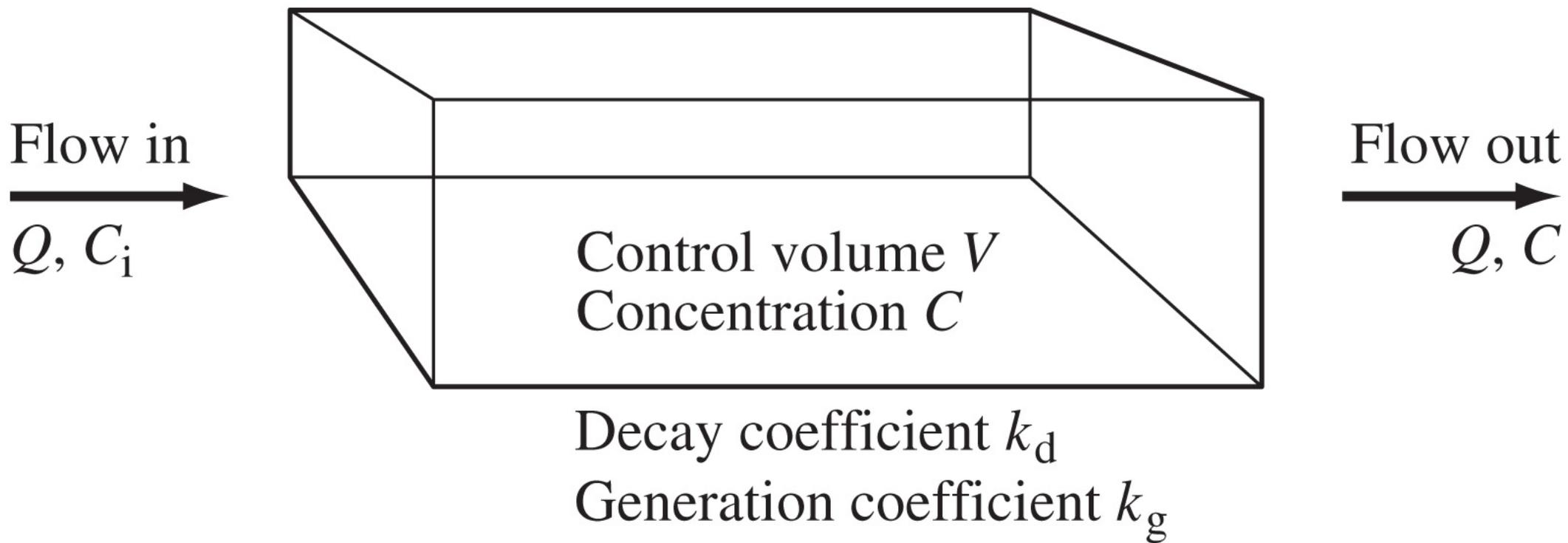


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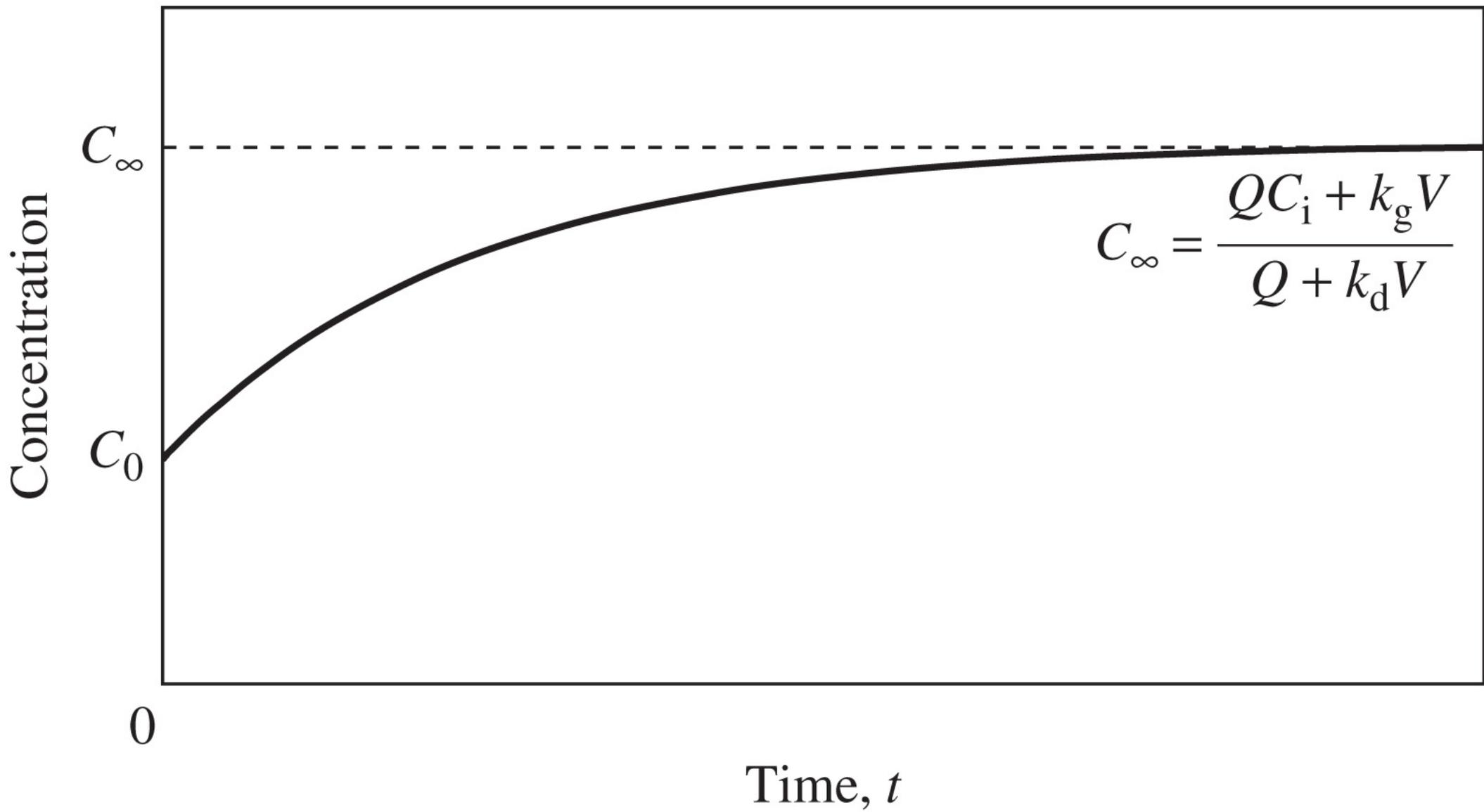


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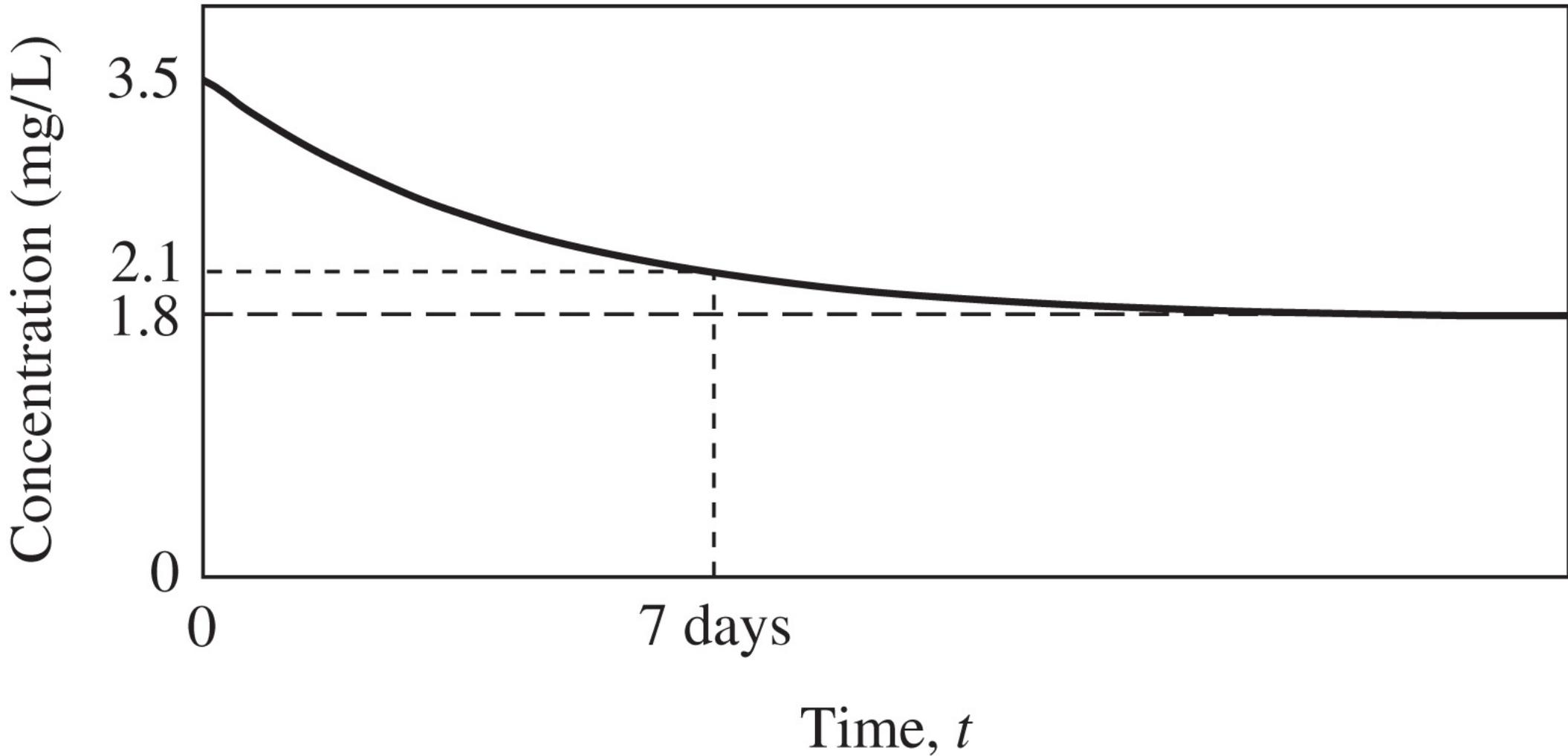


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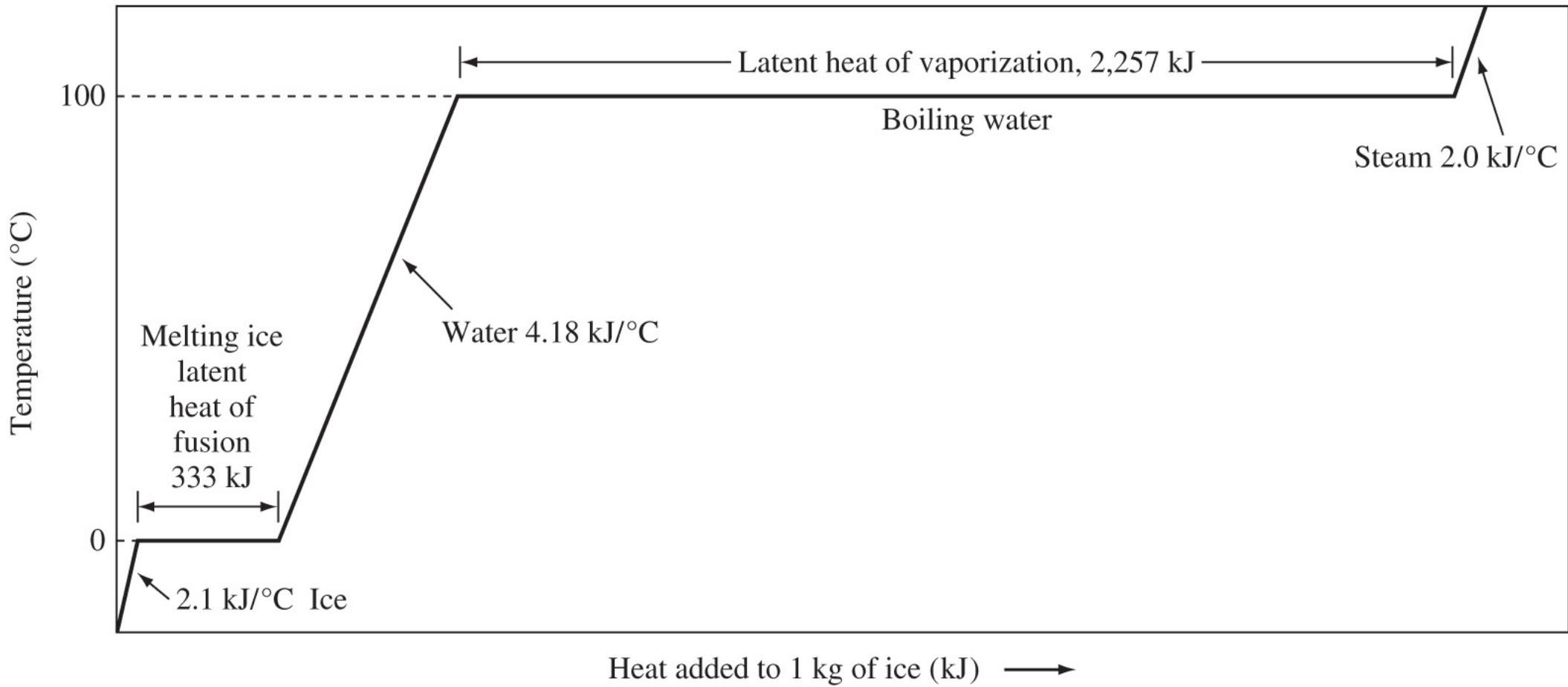


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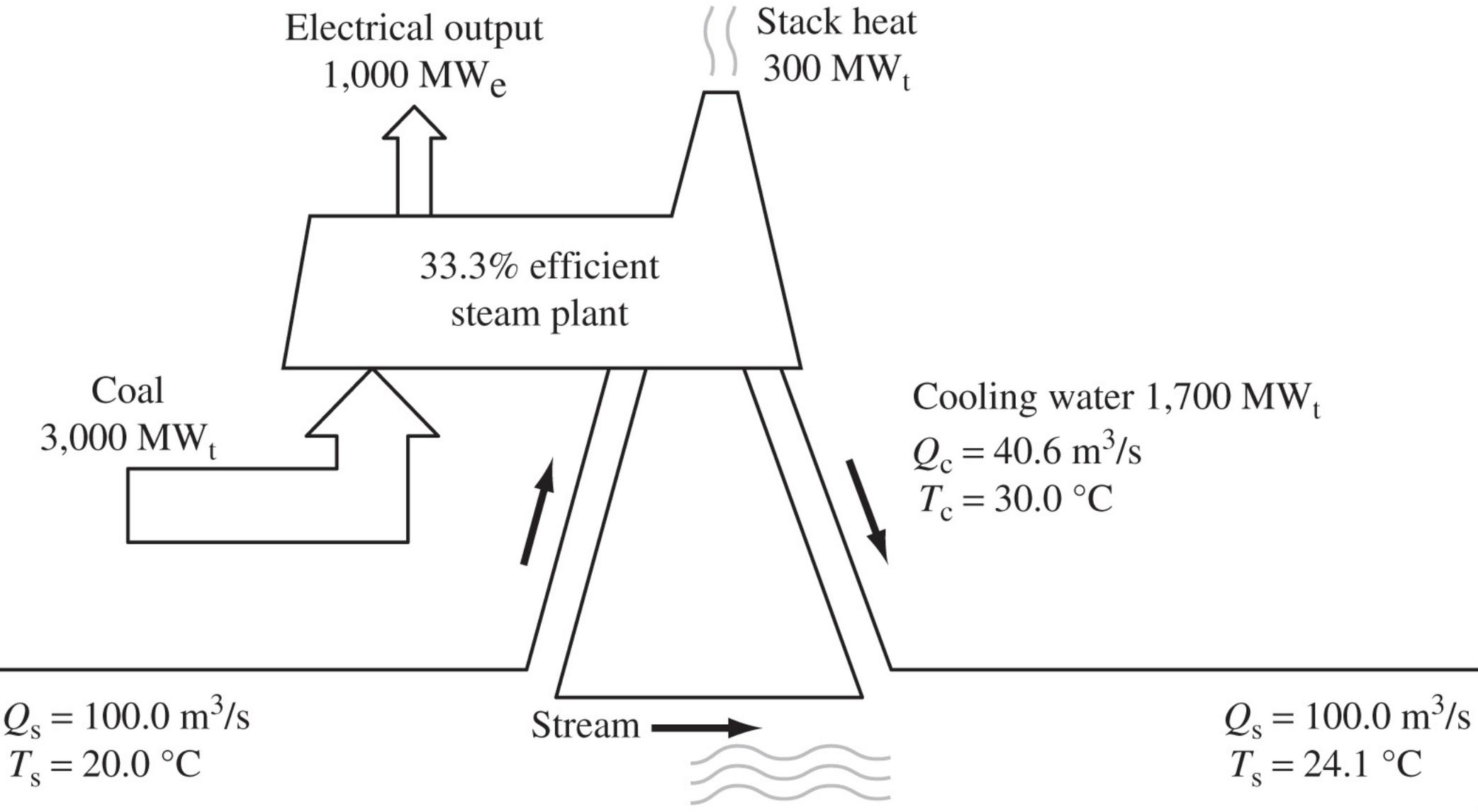


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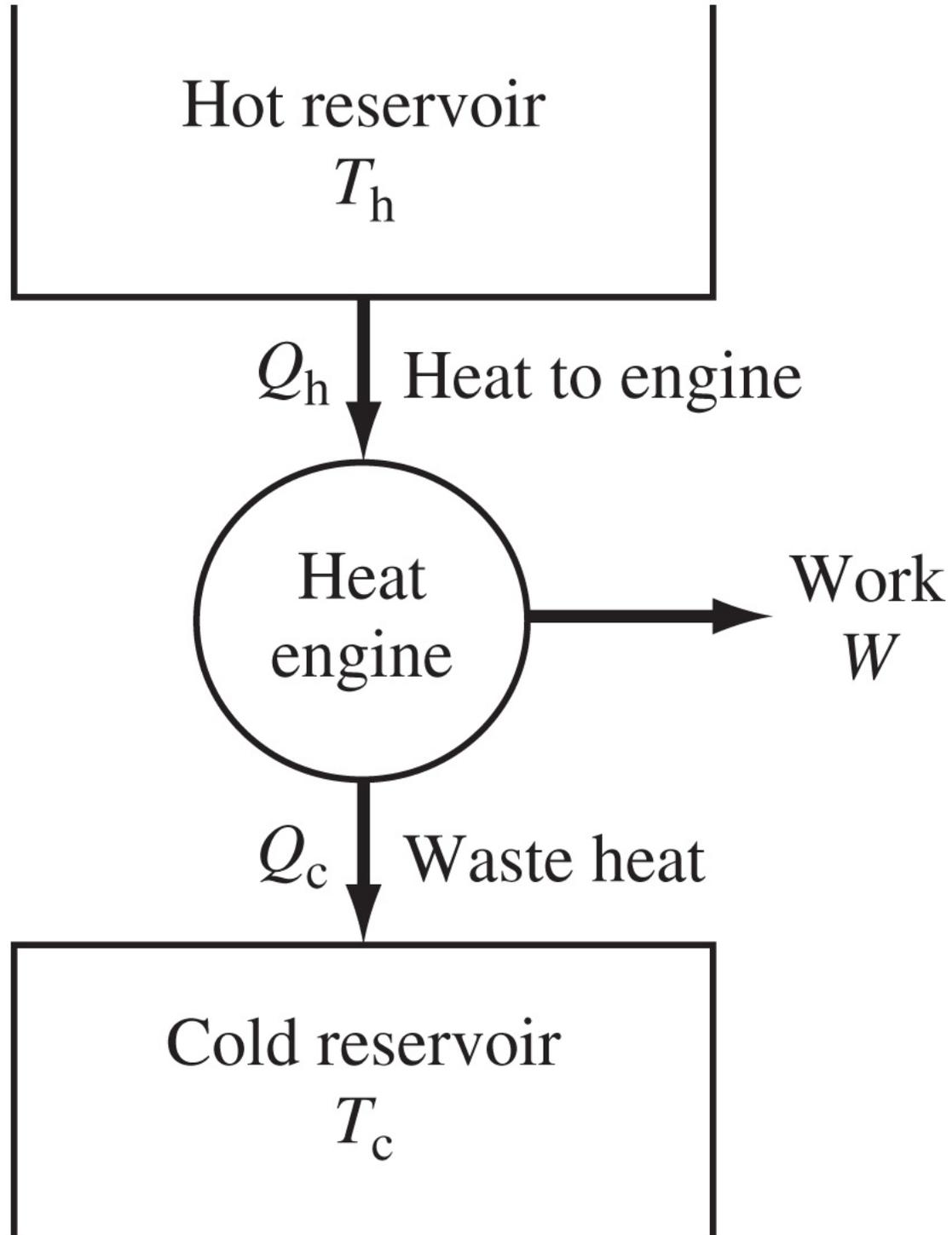


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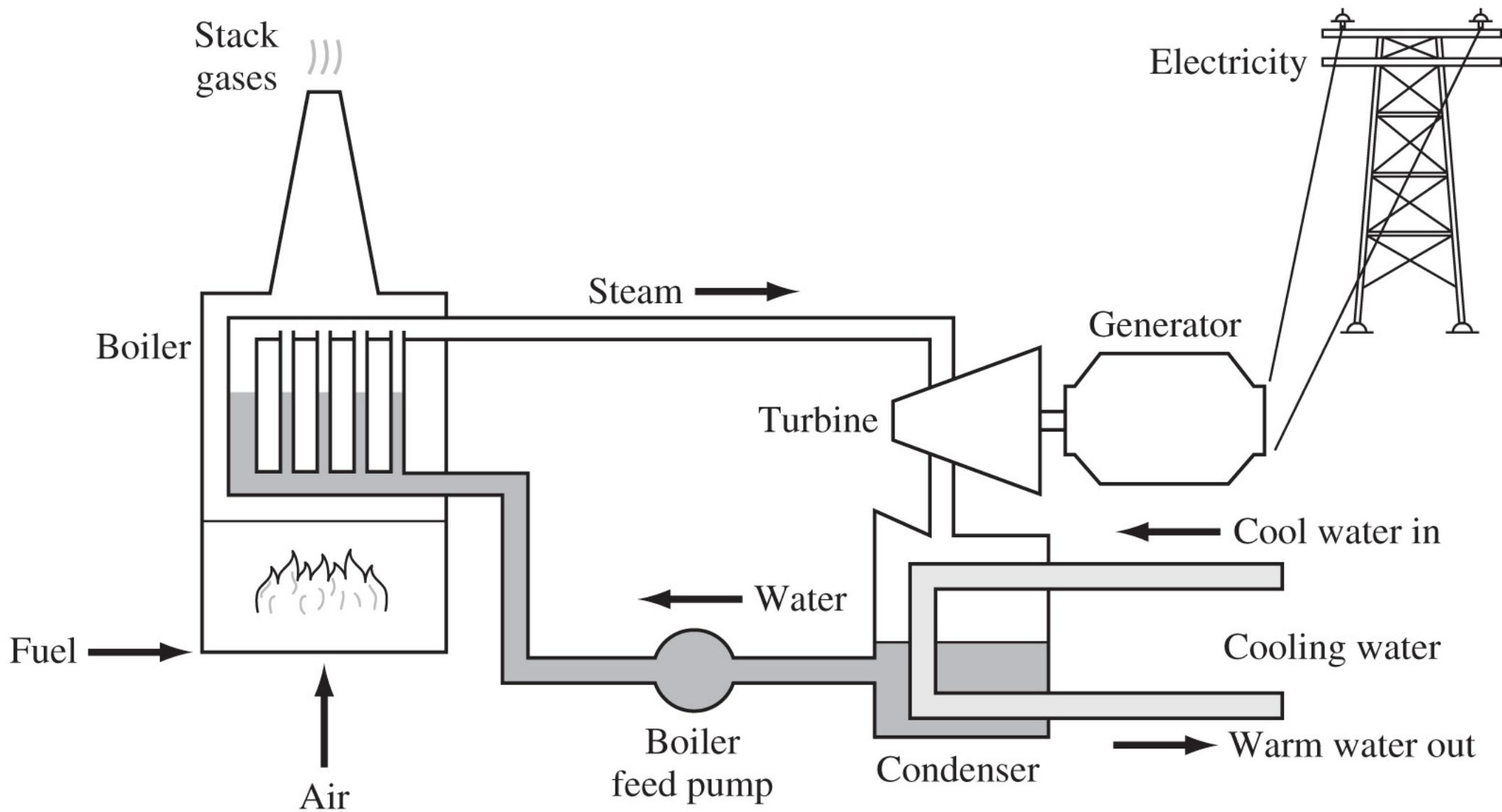


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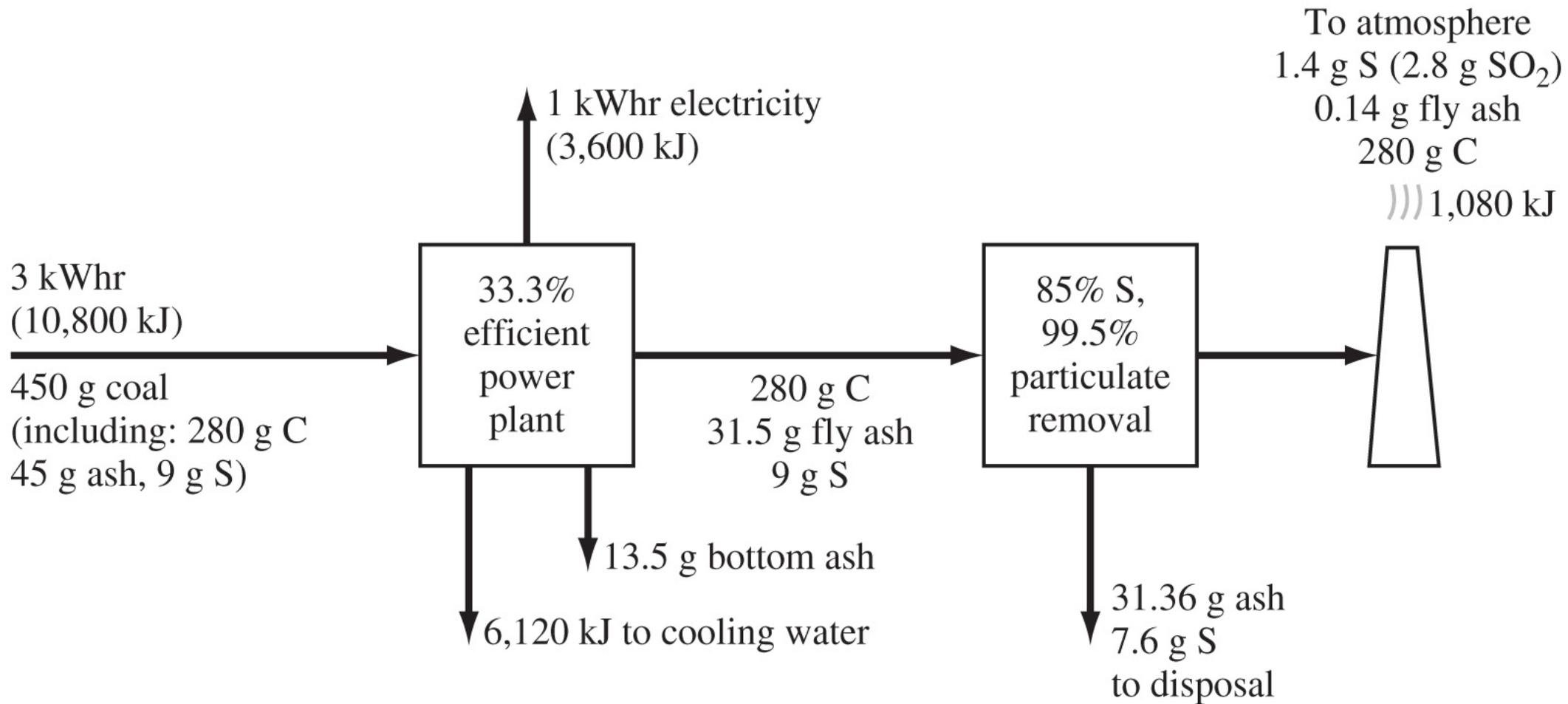


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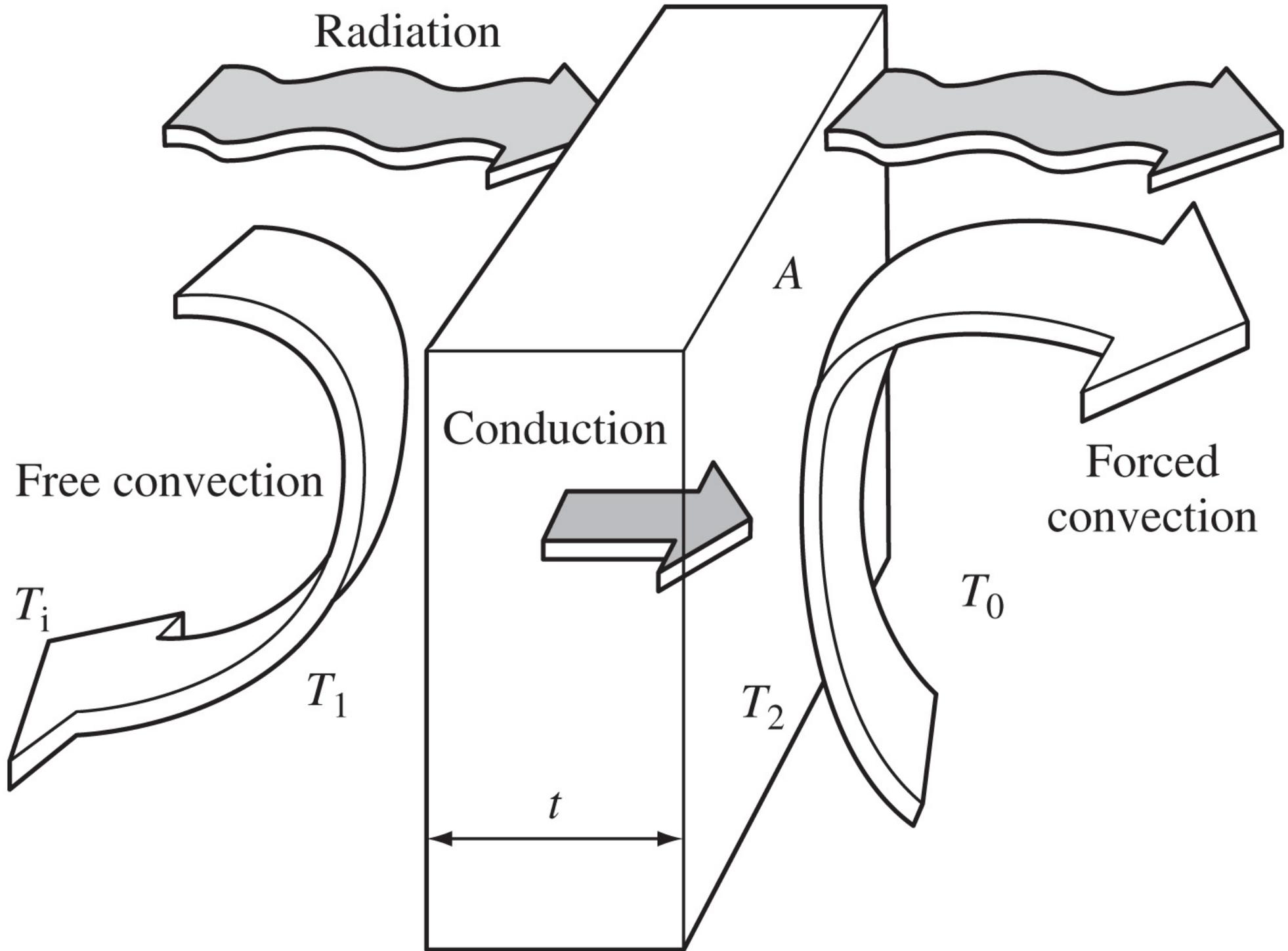


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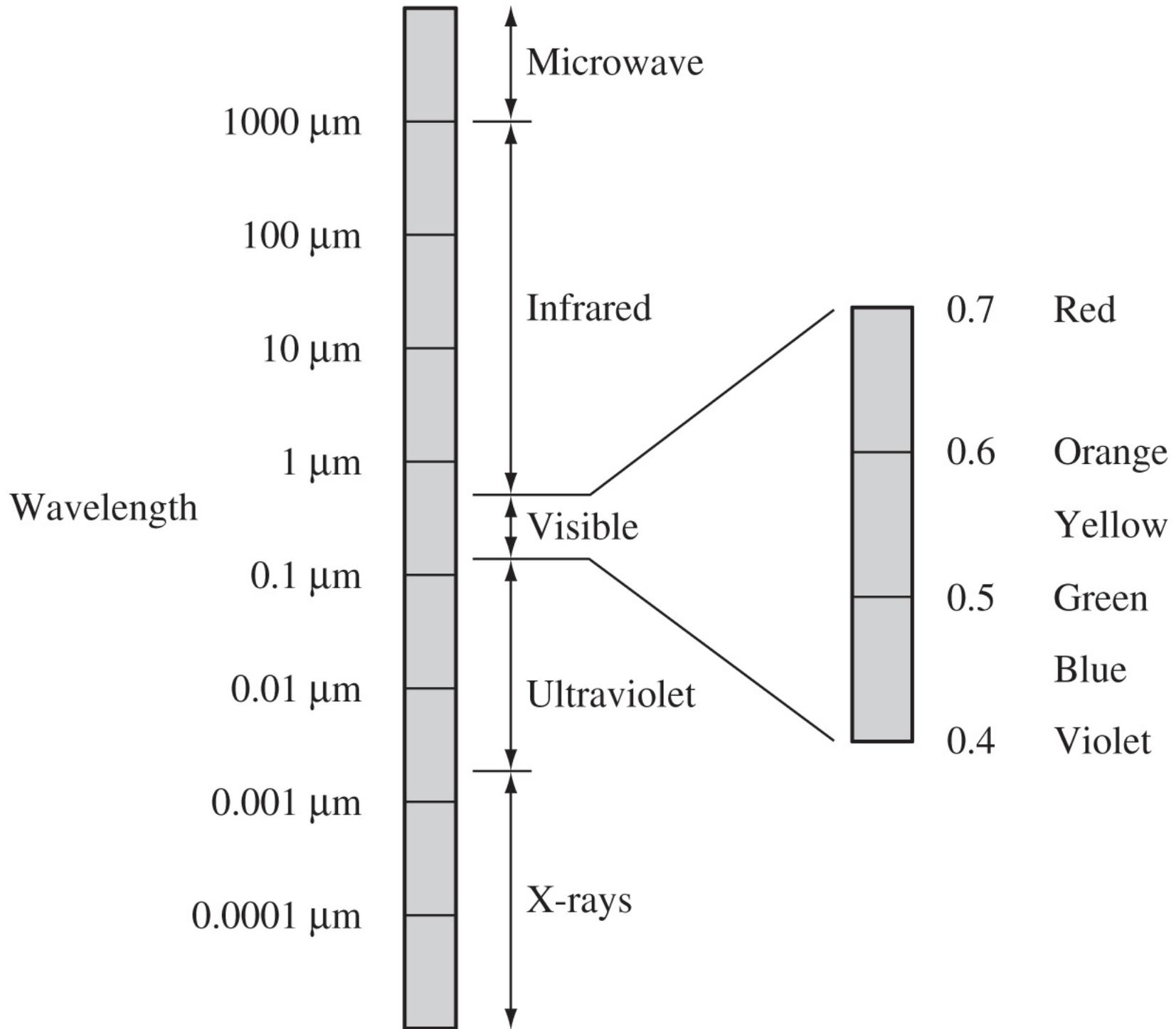


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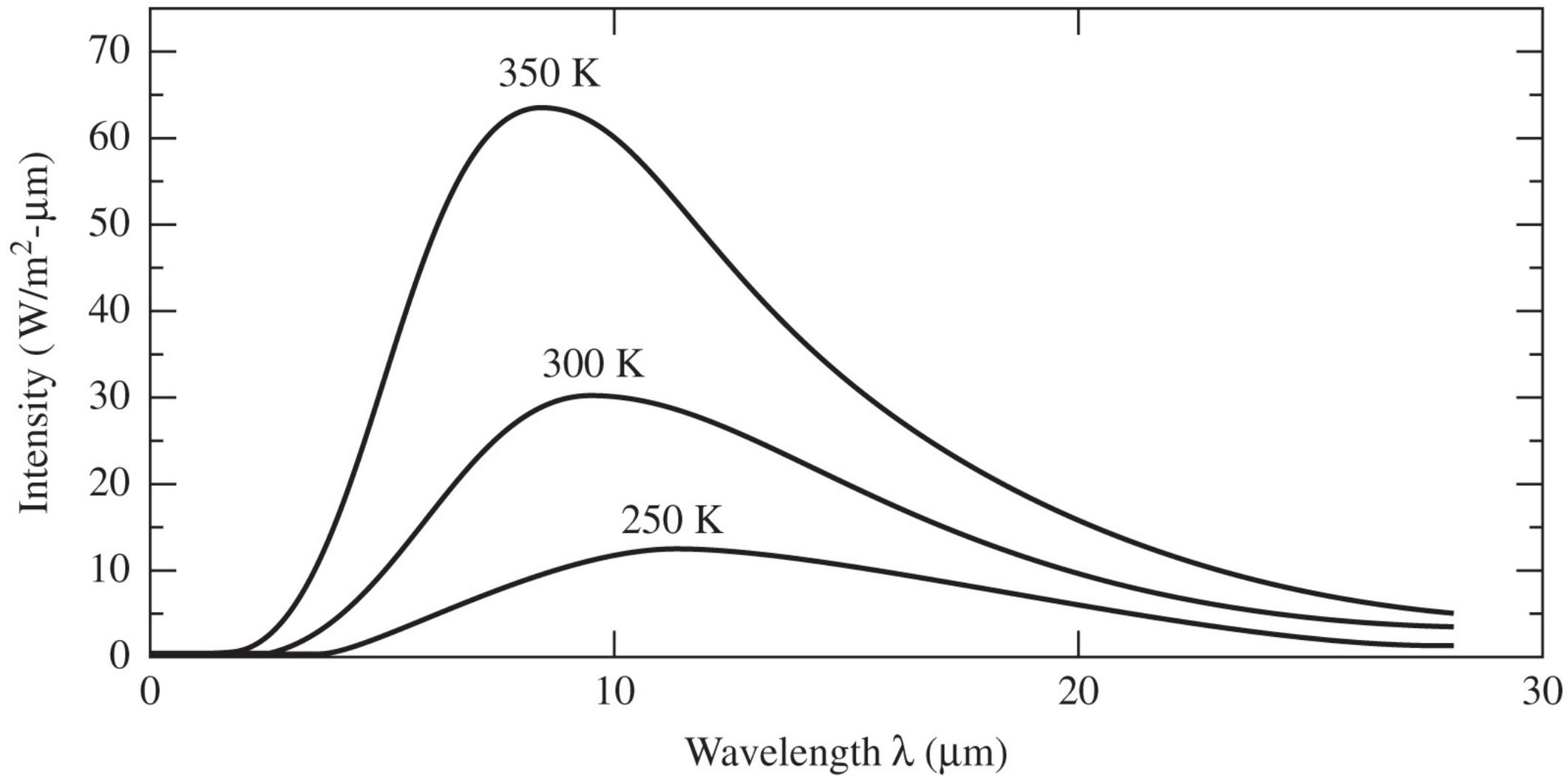


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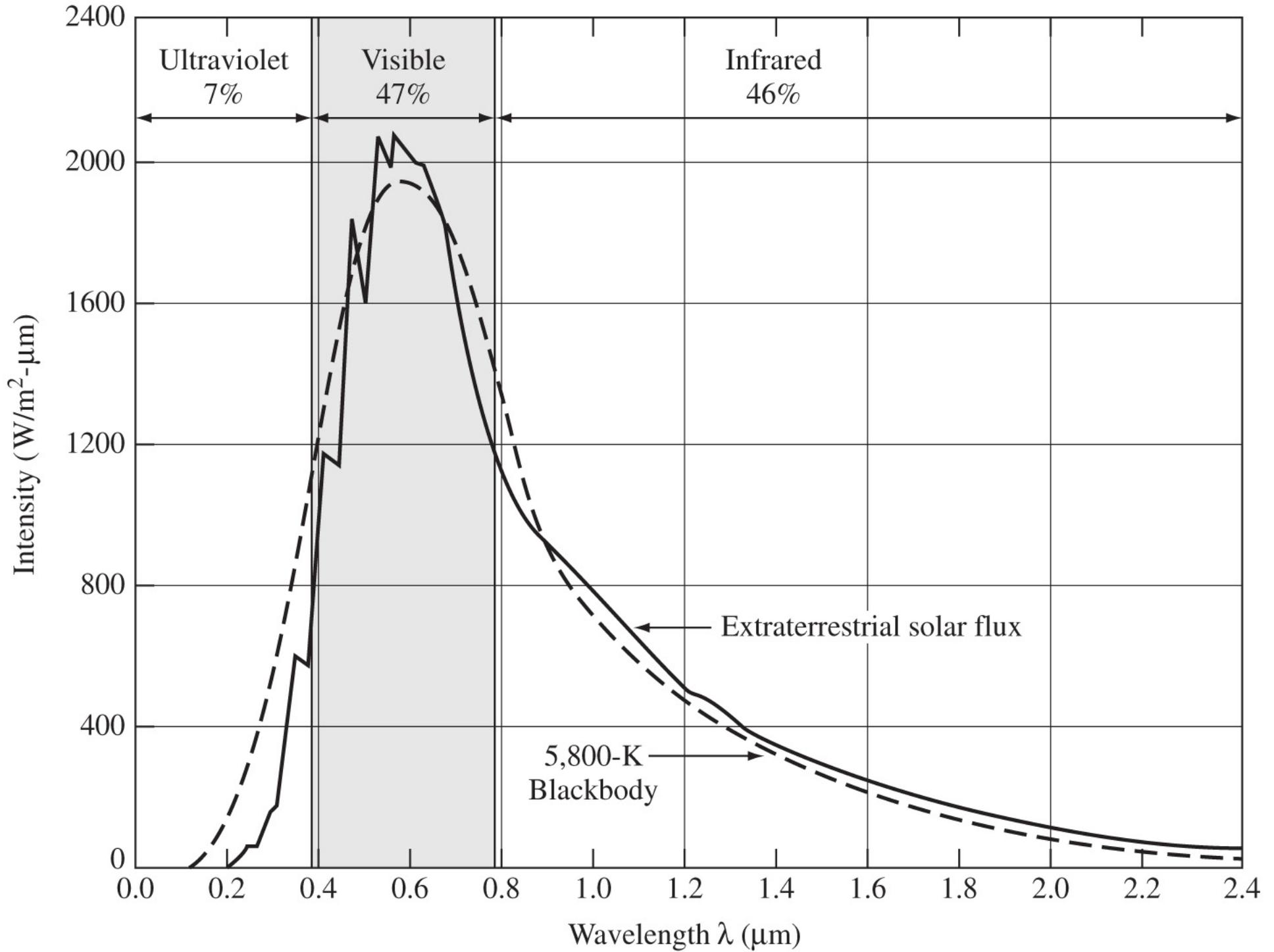


Figure: 01-21

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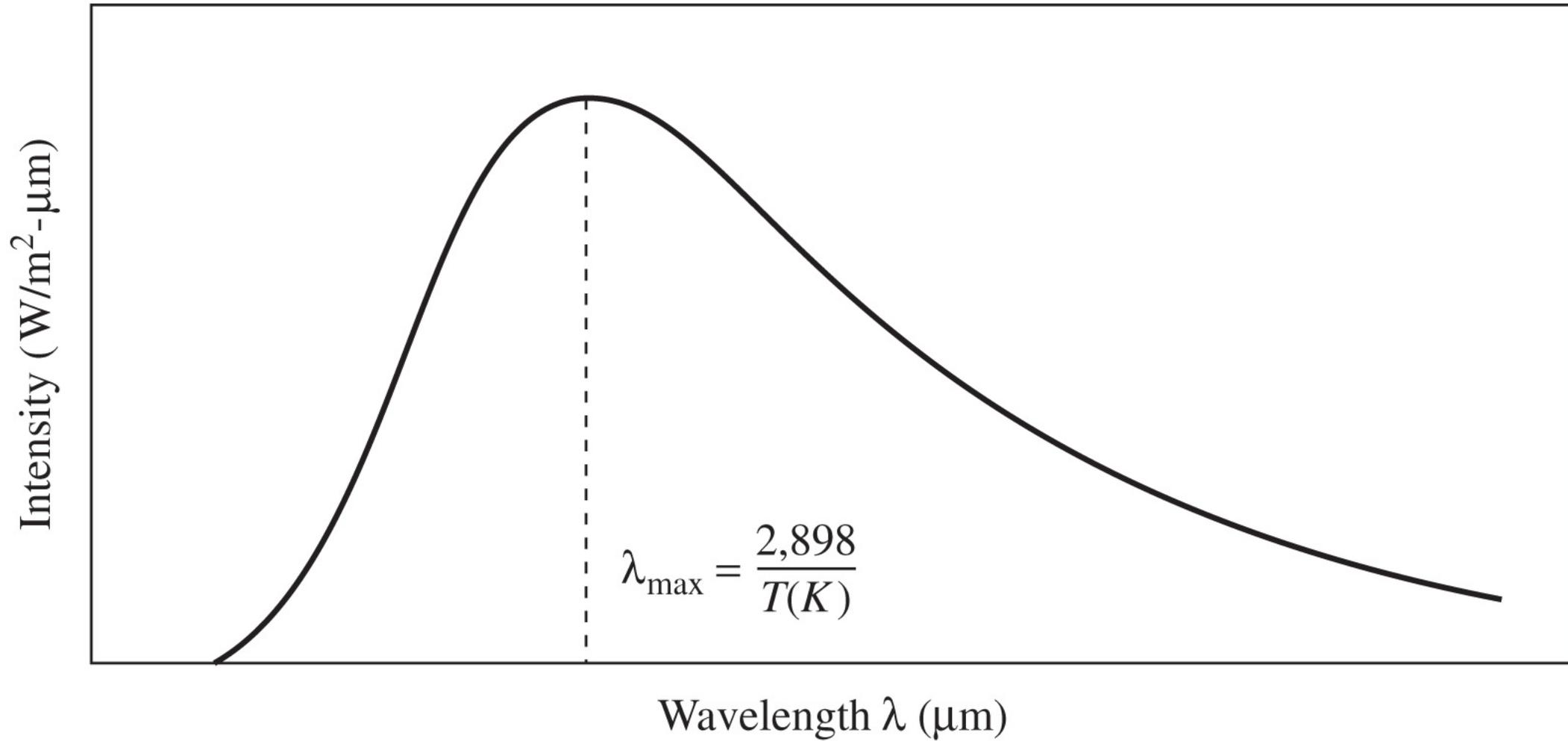


Figure: 01-22

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