Converting Litres/second (L/s) and Cubic Metres/hour (M^3/hr) (Note: $1M^3$ = 1000 Litres)

If you know the Litres/second (L/s):

L/s x 3.6 = m³/hr. (e.g. 25 L/s x 3.6 = 90m³/hr).

If you know the Cubic Metres/hour (m³/hr):

m³/hr ÷ 3.6 = L/s. (e.g. 200m³/hr ÷ 3.6 = 55.55 L/s).

Note:

Stated extraction rates are “free air” values and do not account for grille type or duct run restrictions.

Air changes per hour (ACH)

The number of times the total room volume of air is changed each hour. Refer to the table below for the recommended Air Changes per hour based on the room type.

Application Description	Air Changes Per Hour
Bathrooms	11 - 15
Kitchens - (domestic)	15 - 20
Laundries - (no drier)	6 - 10
Laundries - (with drier)	10 - 30
Toilets	6 - 10
Bedroom	2 - 5
Offices	6 - 10
Cafés	10 - 12
Canteens	8 - 12
Garages	6 - 8
Kitchens - (commercial)	20 - 30
Restaurants	8 - 12
Factories	8 - 10
Stores & Warehouses	3 - 6
Libraries	3 - 5
Classroom	5 - 7
Toilet Public	15-20
Smoking Room	12-15

Working out the right fan for the job

- Calculate the room volume in metres (L x W x H).
- Multiply the room volume by the recommended air changes per hour for that room. Always use the higher limit.
- The result is the total performance required in cubic metres per hour.

Select a fan with a higher performance than this figure.

Example:

What is the best fan for a bathroom that is 2.8m long by 2.8m wide with a ceiling height of 2.4m?

Calculate the volume of the bathroom: 2.8 x 2.8 x 2.4 = 18.8m^3.

11-15 air changes per hour are recommended for a bathroom. Multiply the room volume by 15: 18.8m^3 x 15 = 282m^3/hr.

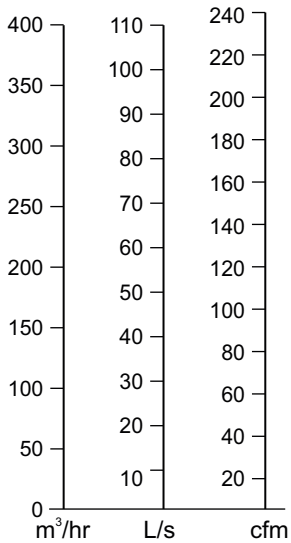
The fan to choose for this bathroom would be a fan that performs at greater than 282m^3/hr.

A fan that has a performance level of 313m^3/hr or higher (e.g. XP150, or SF150) would do this job.

Quick cross-reference calculations

Convert from one to other types of measurement:

Known	To Find	Action
L/s	m³/hr	L/s x 3.6 =m³/hr
m³/hr	L/s	m³/hr ÷ 3.6 = L/s
cfm	m³/hr	cfm x 1.69 =m³/hr
cfm	L/s	cfm x 0.47 = L/s



m³/hr to L/s to cfm Comparison Chart