

How to calculate the amount of oxygen remaining in an oxygen cylinder

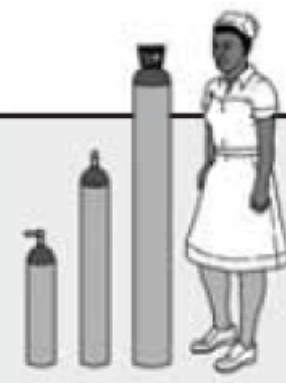
Annex 3 - Oxygen therapy and Oxygen humidification

MSF recommends the use of the portable oxygen concentrator. However, if not available, oxygen cylinders can be used for ambulance transport. Cylinders contain compressed, cold gaseous oxygen. They must have a regulator to limit the pressure of oxygen being released, a gauge to indicate the amount of oxygen in the cylinder and a flow meter to control oxygen flow to the patient. Before performing any transport, the healthcare provider should ensure that the oxygen is full and that there is enough, plus back-up, for the full journey.

If using an oxygen cylinder for transport, the tank factor should be indicated on the tank.

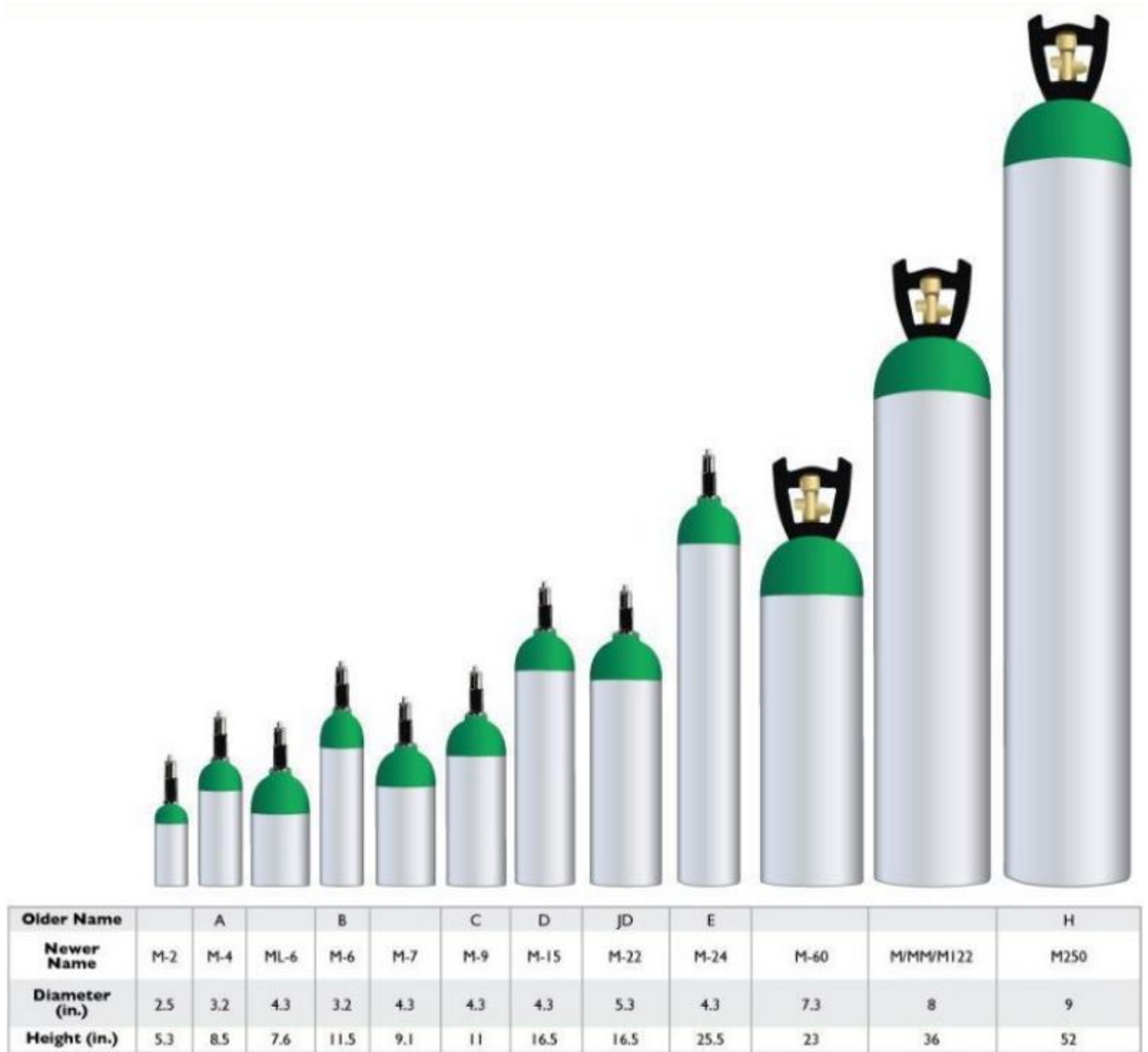
After use, the healthcare provider should ensure the tank is closed and the remaining air in the gauge has been emptied. Once empty, the flow meter will indicate zero (the tank is empty).

CAUTION: Refillable oxygen cylinders must only be used for ambulance transport. There are many associated risks using the refillable cylinders, not only in relation to container pressure, but more importantly the quality of oxygen is often not guaranteed.



LITRES IN FULL O ₂ TANK BY HEIGHT OF TANK/CYLINDER LETTER						
<i>Rate of oxygen administration:</i>						
<i>Top row: How long will a tank of this size last.</i>						
<i>Bottom row: How many tanks required for 24 hours of oxygen administration.</i>						
Rate of oxygen administration for one patient	O ₂ tank C 170 litres 14 inches	O ₂ tank D 340 litres 18 inches	O ₂ tank E 680 litres 31 inches	O ₂ tank F 1360 litres 34 inches	O ₂ tank G 3400 litres 49 inches	O ₂ tank J 6800 litres 57 inches
2 litres/min	1 hr 25 min	2 hr 50 min	5 hr 40 min	11 hr 20 min	28 hr 20 min	56 hr
	16 tanks	8 ½ tanks	4 tanks	2 ½ tanks	1 tank	½ tank
5 litres/min	34 min	1 hr 8 min	2 hr 16 min	4 hr 30 min	11 hr 20 min	23 hr
	48 tanks	21 tanks	10 tanks	5 tanks	2 tanks	1 tank
8 litres/min	21 min	42 min	1 hr 24 min	2 hr 50 min	7 hr	14 hr
	72 tanks	34 tanks	17 tanks	8 tanks	4 tanks	2 tanks
10 litres/min	17 min	34 min	1 hr 8 min	2 hr 16 min	5 hr 40 min	11 hr
	96 tanks	42 tanks	21 tanks	10 tanks	4 tanks	2.2 tanks

Tank Size according to letter, height and diameter



Evidence: (World Health Organization, 2016) - Image used with permission from: (Rapin et al., 2016).

Tank size image retrieved from: <https://applied-inc.com/oxygen-cylinder-sizes-and-info>