

Balloon gas

Simple, quick and safe



Whether it is for a wedding, a club celebration or a child's birthday, as an advertising medium for a business launch, or for a publicity event, or a city festival..., balloons are not only popular among young and young at heart but they also attract impressive media attention. Balloons create a fanciful, lively and cheerful atmosphere boosting your event what you will treasure for a long time to come. And with our balloon gas you can be sure that your balloons really do take off.

Balloon gas from Messer is easy and safe to use: It is made up of helium and small amounts of air. It is safe, non-toxic, non-flammable and non-explosive. Merely the pressure contained in the bottles requires particular attention. Our balloon gas range of practical cylinder sizes meets all your requirements.

General advice

- With latex balloons, the gas escapes through the balloon walls within approximately 14 to 16 hours; latex balloons should therefore only be filled immediately prior to the planned event.
- The use of balloon gas in enclosed rooms is permitted; but make sure that there is adequate ventilation.
- Do not inhale balloon gas directly. Although balloon gas is not toxic, it displaces vital oxygen from the lungs!
- The use of hydrogen instead of balloon gas is prohibited on safety reasons!

Have fun with your balloons - and the balloon gas from Messer

Balloon gas

Properties

Balloon gas is made up predominantly of helium. Helium is a colourless, inert gas, much lighter than air.

How buoyancy is calculated

The specific weight of helium in normal ambient conditions is about 0.18 kg/m³, that of air about 1.21 kg/m³. The difference between them means that there is a theoretical buoyancy of about 1 g per litre of helium. In practice, adequate buoyancy is guaranteed if the weight of the balloon and attachments (string, cards) is less than about 0.5 to 0.6 g per litre of balloon volume.

The most commonly used measure to indicate the size of balloons is the diameter (d) in cm. The volume (V) in litres is then calculated as follows:

$V \text{ (litres)} = (0.524/1000) \times (d \text{ (in cm)})^3$. Accordingly, a spherical balloon with a diameter of 30 cm has a volume of 14.1 litres and sufficient buoyancy for a weight of about 7 to 8.5 g.

Pear-shaped balloons with an equal diameter have a slightly greater volume.

How the gas is supplied

Balloon gas is stored in cylinders under a pressure of 200 bar. At least the cylinder shoulder is coloured brown. Messer offers balloon gas in the following cylinder sizes:

Cylinder size	Gas content	Number of round balloons to be filled with a diameter of		
		30 cm	40 cm	60 cm
5 l (200 bar)	0,9	ca. 63	ca. 27	ca. 8
10 l (200 bar)	1,8	ca. 127	ca. 53	ca. 16
20 l (200 bar)	3,7	ca. 262	ca. 110	ca. 32
30 l (200 bar)	5,5	ca. 390	ca. 164	ca. 48
50 l (200 bar)	9,2	ca. 652	ca. 274	ca. 81

Inflation Valve

For safe and convenient filling of latex or foil balloons, Messer also offers special valves, which can be purchased or hired together with the balloon gas.

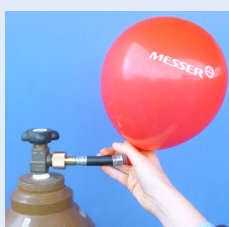
Fill your balloons in a few simple steps:



Ensure cylinder is standing securely, unscrew cylinder cap if applicable. Screw inflation valve on to cylinder valve by hand (do not use a tool!)



Open cylinder valve (slowly) and check whether the connection is tight.



Push balloons on to the filling nozzle, bend the valve down slightly and carefully let the gas flow into the balloon until it has reached the desired size (Caution: high pressure).

After use, close the cylinder valve, unscrew the valve and if applicable screw cylinder cap back on.