



Balloon inflation is an important part of obtaining accurate atmospheric profiles. This guide will help you determine the correct inflation for various balloon sizes and payloads. After reviewing the desired altitude, you will find an equation at the bottom of the page and an example for filling the appropriate balloon for your payload. This guide assumes that you are targeting an ascent rate of ~320 m/minute (~5 m/s). Also, a standard US tank of He is around 296 cu. ft.

Balloon Specifications

	30g	50g	100g	200g	300g	350g	600g	800g	1200g	1500g
Neck diam. (cm)	1.5	1.5	1.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Approx. Burst Altitude (km)	13.1	14.0	17.0	21.2	24.7	25.9	30.8	32.6	33.2	34.2
Approx. Burst Pressure (hPa)	163	141	66.2	45.3	26.3	21.9	10.4	7.6	7.3	6.3
Pre-flight Diameter (cm)	53	63	87	117	123	125	142	150	179	185
Pre-flight Volume (cu. ft)	2.83	4.60	12.0	29.0	34.3	36.4	53.0	62.2	106	118
Diameter at burst (cm)	88	110	196	300	378	412	602	700	863	944
Free Lift	180	270	420	510	560	585	870	970	1190	1280

Radiosonde, Options, and Conditions

Radiosonde	
iMet-4	120
Parachute	70
De-Reeler	50
Rain	
Light	100
Moderate	200
Heavy	300
Icing	
Moderate	300
Severe	500
High Surface Wind	
>25 kts (>12.5 m/s)	100
>40 kts (>20.5 m/s)	200-300

Balloon Free Lift + Radiosonde + Options + Conditions = Counterweight

Example: **560 (300g) + 120 (iMet-4) + 70 (Parachute) + 50 (De-reeler) + 0 (Clear Skies) = 800g**

NOTE: InterMet stocks inventory for 100, 200, 300, 350, and 600g balloons. Other sizes are subject to availability.