

Buoyant Drone Weight Allocation								
Subsections	Part	Number of units	Mass per unit est (g)	Weight Contribution est (g)	Subsection Weight est (g)	Mass per unit (g)	Weight Contribution (g)	Subsection Weight (g)/ percent of estimate
Electronics	Pic32	1	7	7		1	1	-6
	Raspberry Pi Compute Module 3+	1	9	9		9	9	0
	SODIMM	1				3	3	3
	RC receiver	1	13	13		16	16	3
	IMU sensor	1	2.5	2.5		1	1	-1.5
	Camera (camera + breakout + antenna)	1	90.7	90.7		24	24	-66.7
	Ultrasonic sensor	4	6	24		8	32	8
	Barometric sensor	1	1.2	1.2		1	1	-0.2
	GPS sensor	1	8.5	8.5		4	4	-4.5
	GPS antenna	1				95	95	95
	Motor	4	30	120		44	176	56
	ESC	1	25	25		24	24	-1
	Battery 1	1	640	640		637	637	-3
	Servo	4	55	220		61	244	24
	5V step down voltage regulator	1				3	3	3
	Radio telemetry	1				14	14	14
	Radio telemetry antenna	1				10	10	10
	PCB	1				30	30	30
	Total				1160.9		1324	163.1
Drone Frame	Servo connectors	4	64.76	259.04	SLDW	31	124	-135.04
	Ultrasonic mount	1	141.68	141.68	SLDW	53	53	-88.68
	Motor mount block	4	13.62	54.48	SLDW	6	24	-30.48
	feet	4	1.65	6.6		1.2	4.8	-1.8
	Gondola	1	394.06	394.06	SLDW	261	261	-133.06
	Propellers	4	9.7	38.8		10	40	1.2
	Aluminum sheet	1	32.3	32.3	SLDW	45.7	45.7	13.4
	Gondola Plate	1	52.65	52.65	SLDW	50	50	-2.65
	Servo plate	4	9.2	36.8	SLDW	10	40	3.2
	Ultrasonic plate	1	50.29	50.29	SLDW	25	25	-25.29
	Total				1066.7		667.5	-399.2
Payload	MagAero	1	1000	1000			1000	0
	Total				1000		1000	0
Joining elements	Carbon Steel Dshaft(temp)	4	36.5	146	SLDW	37	148	2
	Servo Shaft Coupler	4	3	12		3	12	0
	Nuts	24	3.553	85.272	SLDW	3.1	74.4	-10.872
	Washer	24	0.59	14.16	SLDW	0.7	16.8	2.64
	Screws (3D parts)	28	5.82	162.96	SLDW	5.8	162.4	-0.56
	Ultrasonic SCreews	12	0.14	1.68	SLDW	0.14	1.68	0
	Standoff screws	4	0.5	2		0.5	2	0
	Standoffs	4	0.5	2		0.5	2	0
	Motor mount	4	3	12	SLDW	3	12	0
	Motor shaft propeller attachment	4				5	20	20
	Total				438.072		451.28	13.208
Lift bag	Bag itself	1	350	350		315	315	-35
	Envelope (est)	1	500	500		696	696	196
	Lift force	1	-4050	-4050			-4050	0
	Total			0	-3200		-3039	161
								Change from estimate
				est Effective "weight" g	465.672	actual effective"weight" g	403.78	-61.892
				est Effective weight N	4.5635856	actual Effective weight N	3.957044	

if you add items to the weight chart add above the bottom row of each section, so calculations update								
				Mass w/o Lift	4.515672kg			
				Weight w/o Lift	44.2535856N			