

Nugget Wheel Calculations

Brand	Wheel diameter (in)	Circumference (in)	Dark width (in)	Circumference/dark width	Max RPM	Min RPM	Revs/sec	Speed (in/sec)	Max RPM dark transit time (ms)	Min RPM dark transit (ms)
Kaytee Comfort	8.50	26.70	4.00	3.00	120.00	12.00	2.00	53.41	74.9	898.8
Kaytee Comfort	8.50	26.70	5.34	5.00	120.00	12.00	2.00	53.41	100.0	1200.0
Kaytee Comfort	8.50	26.70	3.34	8.00	120.00	12.00	2.00	53.41	62.5	750.0
Kaytee Crittertrail	6.75	21.21	7.07	3.00	150.00	12.00	2.50	53.01	133.3	1600.0
Kaytee Slient Spinner	6.50	20.42	6.81	3.00	150.00	12.00	2.50	51.05	133.3	1600.0
Turntable	11.90	37.38	12.46	3.00	150.00	12.00	2.50	93.46	133.3	1600.0
Ware flying saucer	12.00	37.70	12.57	3.00	150.00	12.00	2.50	94.25	133.3	1600.0
Wire wheel (bad for little rodent feet)	5.75	18.06	6.02	3.00	150.00	12.00	2.50	45.16	133.3	1600.0
Wodent wheel	11.00	34.56	11.52	3.00	150.00	12.00	2.50	86.39	133.3	1600.0
Wodent wheel Jr	8.00	25.13	8.38	3.00	150.00	12.00	2.50	62.83	133.3	1600.0
			0.00	3.00	150.00	12.00				0.0
Experiment	4.00	12.57	4.00	3.00	150.00	12.00	2.50	31.42	127.3	1527.9

Nugget can run 54"/sec

Crucial variable

A calculated field

min dark width = (desired transit time)* (Circumference)* (revs/sec)

min dark width = (0.05s)* (Pi* diameter)* (revs/sec)

Example: (0.05s)* (Pi* 8.5")* (2 revs/sec)= 2.67"