

PUMPING CAPACITY

OF THE 8FT, 12FT, & 16FT

IRON MAN WINDMILL™

SEE CHART BELOW FOR THE 20FT IRON MAN WINDMILL

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Pump Diameter (inch)	Amount Pumped Per Hour		Elevation Water Can be Raised Ft / M		
	Gallons (US)	Cubic Meters Tons - Metric*	Size of Windmill (wind wheel diameter)		
			8ft (2.4M)	12ft (3.6M)	16ft (4.8M)
1 ¾	150	0.6	185 – 57	420 – 129	1000 – 308
1 7/8	180	0.7	175 – 54	390 – 120	920 – 283
2	190	0.7	140 – 43	320 – 98	750 – 231
2 ¼	260	1.0	112 – 34	250 – 77	590 – 182
2 ½	325	1.2	94 – 29	210 – 65	490 – 151
2 ¾	385	1.5	80 – 25	180 – 55	425 – 131
3	470	1.8	68 – 21	155 – 48	360 – 111
3 ¼	550	2.1	56 – 17	130 – 40	305 – 94
3 ½	640	2.4	50 – 15	115 – 35	265 – 82
3 ¾	730	2.8	42 – 13	98 – 30	230 – 71
4	830	3.1	39 – 12	86 – 26	200 – 62
4 ¼	940	3.6	33 – 10	76 – 23	180 – 55
4 ½	1050	4.0	30 – 9	68 – 21	160 – 49
4 ¾	1170	4.4	26 – 8	61 – 19	140 – 43
5	1300	4.9	25 – 8	55 – 17	130 – 40
5 ¾	1700	6.4	18 – 6	40 – 12	100 – 31
6	1875	7.1	17 – 5	38 – 12	85 – 26
7	2550	9.7	12 – 4	28 – 9	65 – 20
8	3300	12.5	9 – 3	22 – 7	50 – 15
Average Pump Rod Load (lbs – Kg)			200 – 90	450 – 200	1000 – 450

*One Ton Metric = One Cubic Meter = 264 Gallons (US)

The above table shows the approximate quantity of water delivered per hour by the Iron Man windmill of the size shown when running steadily in winds of 15 to 20 mph (24 to 32Kph or 6.7 to 8.9Mps) depending on the size of the pump cylinder used. Properly installed windmills in good condition using pump cylinders for the elevations listed will begin pumping in winds approximately 3 to 5mph (6.4 to 8Kph or 1.7 to 2.2Mps). To get the average daily or monthly capacity, multiply the hourly capacity by the number of hours of light, fair or strong winds as are common at your location. When Loaded according to the table, the windmill will reach its maximum pumping capacity in winds blowing steadily about 20mph (32Kph or 8.9Mps).

Pumping capacity in Light Winds is about 25% of the amount shown above. Pumping capacity in Medium Winds is about 55% of the amount shown above.

The Iron Man windmill is normally run on the long stroke. The capacities shown in the table are based on using the long stroke of the windmill. When the short stroke is used, the capacity is reduced by about 25% but the ability to lift water to a higher elevation is increased by 33%. We do not recommend using a windmill on the short stroke except when it is found that a cylinder too large to allow pumping in the prevailing wind conditions has been installed.

The amount of water pumped by a windmill depends on the strength of the usual wind and the exposure to the wind. The center of the wind wheel of a windmill should stand at least 20ft (6M) above all surrounding obstructions, like trees or buildings, within a 150ft (50M) radius so that good wind can get to it. In locations where light winds are common, it is recommended to select a pump one or two size smaller than shown to load the windmill lightly so that it will run easily in light winds. Where strong winds blow a sufficient amount of the time, a larger pump cylinder can be used to pump more water.

Mph = Miles Per Hour, Kph = Kilometers Per Hour, Mps = Meters Per Second

PUMPING CAPACITY OF THE 20ft (6M)

IRON MAN WINDMILL™

SEE SEPARATE CHART ABOVE FOR THE 8ft, 12ft, and 16ft IRON MAN WINDMILL

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Pumping Elevation Feet - Meters	LIGHT WINDS			MEDIUM WINDS			STRONG WINDS		
	Cylinder Diameter (inch)	Cubic Meters Per Hour	Gallons Per Hour	Cylinder Diameter (inch)	Cubic Meters Per Hour	Gallons Per Hour	Cylinder Diameter (inch)	Cubic Meters Per Hour	Gallons Per Hour
3 – 1	36	147	39,000	40	278	73,400	48	534	141,000
5 – 2	28	90	24,000	32	178	47,000	36	300	79,300
10 – 3	20	46	12,200	22	84	22,200	26	156	41,300
15 – 5	16	29	7,800	18	56	14,800	20	92	24,400
25 – 8	12	16	4,400	14	34	9,000	16	59	15,600
35 – 11	10	11	3,000	12	25	6,600	14	45	12,000
50 – 15	8	7	2,000	10	17	4,600	12	33	8,800
75 – 23	7	5	1,500	8	11	3,000	10	23	6,100
100 – 31	6	4	1,100	7	8	2,250	8	15	3,900
125 – 38	5	2.9	765	6	6	1,650	7	11	3,000
150 – 46	4 3/4	2.7	700	5 3/4	5	1,500	6	8	2,200
200 – 62	4 3/4	2.7	700	4 3/4	4	1,050	5 3/4	7	2,000
250 – 77	4 1/4	2.1	550	4 3/4	4	1,050	4 3/4	5	1,380
300 – 92	3 3/4	1.6	425	4 1/4	3	825	4 3/4	5	1,380
400 – 123	3 1/4	1.2	320	3 3/4	2.5	650	4 1/4	4	1,100
500 – 154	3 1/4	1.2	320	3 1/4	1.8	485	3 3/4	3	860
600 – 185	2 3/4	0.9	230	3 1/4	1.8	485	3 1/4	2.4	645
700 – 215	2 3/4	0.9	230	2 3/4	1.3	350	3 1/4	2.4	645
800 – 246	2 1/4	0.6	150	2 3/4	1.3	350	2 3/4	1.7	460
1000 – 308	2 1/4	0.6	150	2 1/4	0.9	225	2 3/4	1.7	460
1200 – 369	1 7/8	0.5	120	2 1/4	0.9	225	2 1/4	1.1	300

The above table shows the approximate quantity of water delivered per hour by the Iron Man windmill of the size shown when running steadily in winds of 15 – 20 mph (24 – 32Kph or 6.7 – 8.9Mps) depending on the size of the pump cylinder used. Properly installed windmills in good condition using pump cylinders for the elevations listed will begin pumping in winds approximately 4 – 5mph (6.4 – 8Kph or 1.7 – 2.2Mps). To get the average daily or monthly capacity, multiply the hourly capacity by the number of hours of light, fair or strong winds as are common at your location. When Loaded according to the table, the windmill will reach its maximum pumping capacity in winds blowing steadily about 20mph (32Kph or 8.9Mps). Pumping capacity in Light Winds is about 25% of the amount shown above. Pumping capacity in Medium Winds is about 55% of the amount shown above.

DESCRIPTION OF WIND SPEEDS:

BARELY PERCEPTIBLE: 0.5 – 3.3Mph (0.8 – 5.3Kph or 0.2 – 1.5 Mps)

LIGHT WINDS: 3.6 – 10Mph (11 – 16Kph or 1.6 – 4.5Mps)

causes movement of leaves, small branches and is felt lightly on the face.

MEDIUM WINDS: 11 – 17Mph (17 – 27Kph or 4.9 – 7.6Mps)

moves tree branches, raises dust and blows litter on the ground.

STRONG WINDS: 18Mph – 23Mph (28Kph – 38Kph or 8 – 10.3Mps)

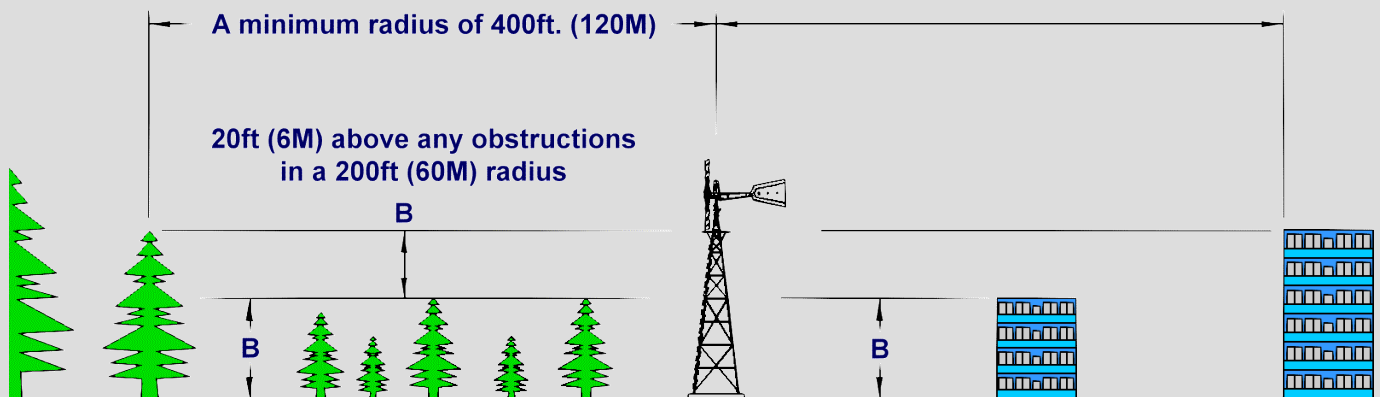
causes small trees to sway.

In winds over 20 – 25Mph (32 – 40Kph or 8.9 – 11.8Mps), the vane tension spring will allow the wind wheel to automatically turn out of the wind and thus control speed and protect the windmill.

PUMPING WITH WINDMILLS

The Iron Man windmill is normally run on the long stroke. The capacities shown in the tables are based on using the long stroke of the windmill. When the short stroke is used, the capacity is reduced by about 25% but the ability to lift water to a higher elevation is increased by 33%. We do not recommend using a windmill on the short stroke except when it is found that a pump too large to allow pumping in the typical wind conditions has been installed.

The amount of water pumped by a windmill depends on the strength of the usual wind and the exposure to the wind. The center of the wind wheel of a windmill should stand at least 20ft (6M) above all surrounding obstructions, like trees or buildings, within a 400ft (120M) radius so that good wind can get to it. In locations where light winds are common, it is recommended to select a pump one or two size smaller than shown to load the windmill lightly so that it will run easily in light winds. Where strong winds blow a sufficient amount of the time, a larger pump cylinder can be used to pump more water.



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