

Costo Referencial de Posesión y Operación de Equipo Mecánico del MTC

* Marzo 2009 *

Maquinaria

N°	Unidad base para el Cálculo	Potencia (HP)	Capacidad	Peso (Kg.)	Costo de Posesión			Costo de Operación						Costo Horario de Posesión y Operación (a+b)	
					Depreciación	Seguro 0.46%	Total (a)	Mant. y Rep.	Consumo de Combustible	Lubr. + Grasas	Filtros	Llantas	Operador		Total (b)
Equipos para Perforación															
1	Compresoras Neumáticas	76	125-175 PCM	2,000	4.2	0.0	4.2	3.3	22.5	2.9	1.2	0.0	8.3	38.2	42.4
2		87	250-330 PCM	2,000	10.0	0.0	10.0	7.8	28.8	2.9	1.2	0.0	8.3	49.0	58.9
3		93	335-375 PCM	2,500	13.6	0.3	13.9	10.6	45.0	3.3	1.3	0.0	8.3	68.5	82.4
4		150	380-590 PCM	3,500	18.4	0.4	18.8	14.4	47.5	4.0	1.6	0.0	8.3	75.8	94.6
5		196	600-690 PCM	5,000	14.2	0.3	14.5	11.1	91.3	6.1	2.4	0.0	8.3	119.2	133.7
6		240	700-800 PCM	6,500	15.7	0.3	16.0	12.3	108.8	7.5	3.0	0.0	8.3	139.9	156.0
7	Martillos Neumáticos		24 Kg	24	3.4	0.0	3.4	2.6	0.0	0.0	0.0	0.0	0.0	2.6	6.0
8			29 Kg	29	4.4	0.1	4.4	3.4	0.0	0.0	0.0	0.0	0.0	3.4	7.8
9	Motoperforadora	1400 RPM	185 CC	26	5.3	0.1	5.4	1.7	0.0	0.0	0.0	0.0	0.0	1.7	7.1
10	Perforadora sobre Orugas		660-690 PCM	6,000	21.8	0.5	22.3	17.4	0.0	0.0	0.0	0.0	0.0	17.4	39.7
Equipos para Movimiento de Tierra															
11	Cargador sobre Oruga	50-79	0.7-1.3 Yd ³	10,000	21.5	0.5	22.0	14.4	41.3	3.6	1.4	0.0	8.3	69.0	91.0
12		80-105	1.5-1.75 Yd ³	12,967	25.5	0.6	26.1	17.0	45.0	4.7	1.9	0.0	8.3	76.8	102.9
13		110-135	2.0-2.25 Yd ³	16,275	44.0	0.9	44.9	29.3	45.0	5.4	2.2	0.0	8.3	90.2	135.1
14		150-180	2.5-2.75 Yd ³	18,387	53.5	1.2	54.6	35.6	70.0	5.8	2.3	0.0	8.3	122.0	176.6
15		190-225	3.2-3.75 Yd ³	25,173	94.6	2.0	96.7	37.9	77.5	7.5	3.0	0.0	8.3	134.2	230.9
16		245	4.0-6.0 Yd ³	28,000	98.4	2.1	100.5	39.4	87.5	7.9	3.2	0.0	8.3	146.3	246.8
17	Cargador Retroexcavador	62	1 Yd ³	8,000	23.5	0.4	23.9	13.1	38.8	3.7	1.5	0.1	8.3	65.6	89.5
18	Cargador sobre Llantas	80-95	1.5-1.75 Yd ³	9,031	31.8	0.6	32.3	21.1	25.0	3.3	1.3	1.2	8.3	60.1	92.5
19		100-115	2.0-2.35 Yd ³	10,308	28.8	0.5	29.4	19.1	35.0	4.3	1.7	1.2	8.3	69.6	99.0
20		100-125	2.50 Yd ³	11,500	42.6	0.8	43.4	28.3	35.0	5.0	2.0	0.9	8.3	79.5	122.9
21		125-155	3.0 Yd ³	16,584	42.6	0.8	43.4	28.3	56.3	5.0	2.0	1.0	8.3	100.9	144.3
22		160-195	3.5 Yd ³	18,585	55.4	1.0	56.4	36.8	60.0	5.4	2.2	1.7	8.3	114.4	170.9
23		200-250	4.0 - 4.1 Yd ³	20,826	61.9	1.3	63.3	41.2	62.5	6.1	2.4	2.3	8.3	122.8	186.0
24	Mototrailas Autocargable	200-250	4.6 Yd ³	22,000	64.3	1.4	65.7	42.8	66.3	7.9	3.2	2.3	8.3	130.6	196.3
25		260-300	5.0-5.50 Yd ³	31,105	89.1	1.9	91.0	59.3	68.8	9.0	3.6	2.3	8.3	151.1	242.1
26		375	8.0 Yd ³	49,738	128.6	2.8	131.4	85.6	87.5	11.1	4.4	3.1	8.3	200.0	331.3
27		140-200	11.0 Yd ³	14,200	66.4	1.2	67.7	22.0	66.3	6.2	2.5	2.4	8.3	107.7	175.3
28		210-300	16.0 Yd ³	20,600	100.5	1.9	102.3	33.3	93.8	9.0	3.6	3.0	8.3	151.0	253.3
29		310-350	23.0 Yd ³	32,800	97.4	2.1	99.5	32.4	120.0	10.8	4.3	2.2	8.3	177.9	277.4
30	Retroexcavadora sobre Llantas	310-400	14-20 Yd ³	20,000	94.7	2.0	96.7	31.5	125.0	11.8	4.7	2.3	8.3	183.6	280.3
31		405-480	21-31 Yd ³	15,500	150.4	3.3	153.7	50.0	165.0	14.3	5.7	3.3	8.3	246.6	400.3
32	Retroexcavadora sobre Oruga	58	1 Yd ³	9,000	19.4	0.4	19.7	8.4	25.0	2.5	1.0	0.2	8.3	45.5	65.2
33	Retroexcavadora sobre Oruga	80-110	0.50-1.3 Yd ³	17,300	52.6	1.0	53.6	21.0	41.3	8.7	3.5	0.0	8.3	82.8	136.4
34		115-165	0.75-1.60 Yd ³	23,400	73.2	1.4	74.5	29.3	62.5	8.8	3.5	0.0	8.3	112.4	186.9
35		170-250	1.10-2.75 Yd ³	33,800	121.3	2.2	123.5	48.5	87.5	9.9	4.0	0.0	8.3	158.2	281.8
36		325	2.0-3.8 Yd ³	61,600	202.9	3.7	206.7	81.2	112.5	10.1	4.0	0.0	8.3	216.1	422.7
37	Ripper (Potencia 150 HP)			2,000	3.8	0.1	3.8	2.1	0.0	0.0	0.0	0.0	0.0	2.1	5.9
38	Ripper (Potencia 250 HP)			2,600	6.3	0.1	6.4	3.5	0.0	0.0	0.0	0.0	0.0	3.5	9.9
39	Ripper (Potencia 300 HP)			4,400	10.9	0.2	11.1	6.1	0.0	0.0	0.0	0.0	0.0	6.1	17.2
40	Ripper (Potencia 470 HP)			6,600	14.2	0.3	14.4	7.9	0.0	0.0	0.0	0.0	0.0	7.9	22.3
41	Tractor sobre Orugas	60-70		6,711	22.5	0.4	22.9	12.0	30.0	2.5	1.0	0.0	8.3	53.8	76.7
42		75-100		9,090	34.4	0.6	35.0	18.3	31.3	2.7	1.1	0.0	8.3	61.6	96.6
43		105-135		12,300	48.5	0.9	49.4	25.9	37.5	4.7	1.9	0.0	8.3	78.2	127.6
44		140-160		14,900	42.4	0.8	43.2	22.6	62.5	5.4	2.2	0.0	8.3	100.9	144.1
45		190-240		20,520	81.3	1.8	83.1	43.4	68.8	7.2	2.9	0.0	8.3	130.5	213.6
46		270-295		21,863	78.6	2.1	80.6	41.9	87.5	7.9	3.2	0.0	8.3	148.7	229.4
47		300-330		31,980	78.3	2.0	80.3	52.2	128.8	8.6	3.5	0.0	8.3	201.3	281.6
48		335-410		37,170	86.1	2.2	88.4	57.4	137.5	10.4	4.2	0.0	8.3	217.8	306.2
49		410-470		52,007	118.2	3.1	121.3	63.0	163.8	12.8	5.1	0.0	8.3	253.1	374.3
50		510		54,760	149.7	3.9	153.6	79.9	163.8	14.6	5.8	0.0	8.3	272.4	426.0
51		650		70,320	192.6	5.0	197.6	128.4	206.3	31.5	12.6	0.0	8.3	387.0	584.6
52	Tractor sobre Llantas	200-250		20,500	45.2	0.8	46.1	30.0	102.5	10.6	4.2	2.3	8.3	157.9	204.0
53		300-350		30,380	59.4	1.1	60.5	39.3	148.8	14.2	5.7	4.5	8.3	220.7	281.2
54		400-500		46,355	127.4	2.4	129.8	84.6	150.0	17.7	7.1	4.9	8.3	272.6	402.4
55	Pala Frontal	195	3.0 Yd ³	38,380	157.6	2.9	160.5	126.1	136.3	7.2	2.9	0.0	8.3	280.7	441.2
Equipos de Compactación															
56	Vibrador de Concreto	4	1.25 Pulg.		2.9	0.0	3.0	1.6	0.0	0.0	0.0	0.0	0.0	1.6	4.6
57		4	1.50 Pulg.		3.0	0.0	3.1	1.7	0.0	0.0	0.0	0.0	0.0	1.7	4.7
58		4	2.40 Pulg.		3.7	0.1	3.7	2.0	0.0	0.0	0.0	0.0	0.0	2.0	5.7
59	Compactador Vibrador Tipo Plancha	4		95	2.1	0.0	2.1	0.9	3.4	0.4	0.2	0.0	8.3	13.2	15.3
60		5.8		145	2.6	0.0	2.6	1.1	3.9	0.8	0.3	0.0	8.3	14.4	17.0
61		7		160	3.9	0.0	4.0	1.3	4.1	1.1	0.5	0.0	8.3	15.3	19.2
62		10.8	0.8 - 1.1 Ton.	800	4.1	0.1	4.2	3.3	5.6	1.8	0.7	0.0	8.3	19.7	23.9
63	Rodillo Liso Vibratorio Autopropulsado	70-100	7-9 Ton.	7,300	16.5	0.3	16.8	8.7	26.3	3.3	1.3	0.8	8.3	48.6	65.3
64		101-135	10-12 Ton.	11,100	17.6	0.3	17.9	9.3	43.8	5.0	2.0	0.8	8.3	69.1	87.0
65		136-170	15-17 Ton.	13,700	21.5	0.4	21.9	11.4	46.3	5.4	2.2	0.8	8.3	74.2	96.2
66		210	19-23 Ton.	19,600	24.7	0.5	25.2	13.0	69.9	7.2	2.9	1.1	8.3	102.4	127.6
67	Rodillo Liso Vibratorio de Tiro	50-80	4-5.5 Ton.	5,500	6.2	0.1	6.3	3.3	23.8	2.9	1.2	0.0	8.3	39.4	45.8
68	Rodillo Neumático Autopropulsado	60-80	3.0-5.0 Ton.	3,700	12.7	0.3	13.0	5.1	21.3	2.9	1.2	0.2	8.3	38.9	51.9
69		81-100	5.5-20 Ton.	5,500	17.0	0.4	17.3	4.5	25.0	3.3	1.3	0.2	8.3	42.6	59.9
70		127	8.23 Ton.	8,000	12.9	0.3	13.1	6.8	38.8	4.7	1.9	0.2	8.3	60.7	73.8
71		135	9.26 Ton.	9,000	13.1	0.3	13.4	7.0	38.3	4.7	1.9	0.2	8.3	60.3	73.7
72	Pata de Cabra Vibratorio Autopropulsado	84	8.1 Ton.	8,200	9.8	0.2	10.0	7.8	28.3	2.9	1.2	0.7	8.3	49.1	59.2
73		100-135	11-13 Ton.	11,300	17.2	0.4	17.5	9.1	37.9	4.7	1.9	0.7	8.3	62.5	80.1
74		136-180	15-17 Ton.	15,300	18.2	0.4	18.6	12.0	50.6	5.7					

Costo Referencial de Posesión y Operación de Equipo Mecánico del MTC

* Marzo 2009 *

Maquinaria

N°	Unidad base para el Cálculo	Potencia (HP)	Capacidad	Peso (Kg.)	Costo de Posesión			Costo de Operación							Costo Horario de Posesión y Operación (a+b)
					Depreciación	Seguro 0.46%	Total (a)	Mant. y Rep.	Consumo de Combustible	Lubr. + Grasas	Filtros	Llantas	Operador	Total (b)	
97	Chancadora Secundaria 24"S	M.E. 30 Kw	46-70 Ton/Hr.	22,000	19.7	0.6	20.3	9.8	0.0	1.5	0.6	0.1	8.3	20.4	40.7
98	Chancadora Secundaria 36"S	M.E. 75 Kw	46-70 Ton/Hr.	23,000	34.1	1.1	35.2	17.0	0.0	1.5	0.6	0.1	8.3	27.6	62.7
99	Chancadora Primaria-Secundaria (Incluye 5 faja)	M.E. 75 Kw	46-70 Ton/Hr.	39,000	69.0	2.3	71.4	36.8	112.5	1.6	0.6	0.1	8.3	159.9	231.3
100	Chancadora Primaria - Secundaria (Azteca)		40-80 Ton/Hr.		29.5	1.9	31.4	11.8	0.0	0.0	0.0	0.0	9.3	21.1	52.5
101	Chancadora Primaria - Secundaria (Escorpión)		60-120 Ton/Hr.		36.9	2.4	39.3	14.8	0.0	0.0	0.0	0.0	10.3	25.1	64.3
102	Zaranda Vibratoria 4"x6"x14'	M.E. 15 Kw	11 Kw	7,000	10.2	0.4	10.6	6.8	0.0	1.2	0.5	0.1	8.3	16.9	27.5
Equipos para Obras de Concreto															
103		M.E. 40 Kw	50 M ³ /Hr.	17,000	28.0	0.9	28.9	22.4	0.0	1.8	0.7	0.0	8.3	33.2	62.2
104	Dosificadora de Concreto	M.E. 45 Kw	50-90 M ³ /Hr.	20,000	33.2	1.1	34.4	26.6	0.0	1.8	0.7	0.0	8.3	37.4	71.8
105		M.E. 60 Kw	120 M ³ /Hr.	23,000	37.4	1.3	38.7	29.9	0.0	1.8	0.7	0.0	8.3	40.8	79.5
106	Mezcladora de Concreto Tipo Trompo	8 Kw	9 Pie ³	500	2.9	0.1	3.0	2.1	0.0	0.0	0.0	0.1	0.0	2.2	5.2
107		18 Kw	7 Pie ³	1,500	7.3	0.2	7.5	5.3	0.0	0.0	0.0	0.1	0.0	5.4	12.9
108	Mezcladora de Concreto Tipo Tambor	23 Kw	11-12 Pie ³	2,200	12.1	0.3	12.4	8.7	0.0	0.0	0.0	0.1	0.0	8.8	21.2
109		20-35 Kw	16 Pie ³	2,700	15.6	0.4	15.9	11.2	0.0	0.0	0.0	0.1	0.0	11.3	27.2
Equipos para Refine y Afirmado															
110		65-80		6,000	17.5	0.5	18.0	11.7	27.5	2.9	1.2	0.2	8.3	51.8	69.8
111		85-120		9,100	23.7	0.6	24.3	15.8	40.0	4.6	1.8	0.2	8.3	70.8	95.1
112		125		11,515	25.1	0.7	25.8	16.7	53.8	4.7	1.9	0.2	8.3	85.5	111.3
113	Motoniveladora	130-135		12,365	33.4	0.9	34.3	22.3	53.8	5.0	2.0	0.2	8.3	91.6	125.9
114		145-150		13,540	33.2	0.9	34.1	22.1	62.5	5.8	2.3	0.2	8.3	101.3	135.3
115		180-200		18,370	55.6	1.5	57.1	37.0	68.8	6.2	2.5	0.6	8.3	123.3	180.4
Equipos para Pavimentación															
116	Amasadora de Asfalto	23.5	5.4 M ³	9,500	28.0	0.5	28.6	22.4	62.5	2.0	0.8	0.1	8.3	96.1	124.7
117	Barredora Mecánica	10-20	7 Pulg. LON	1,000	6.1	0.1	6.2	4.4	12.5	1.3	0.5	0.1	8.3	27.1	33.3
118	Calentador de Aceite 48-S	5	468 P ³	5,700	10.9	0.2	11.0	6.5	0.0	0.0	0.0	0.0	8.3	14.9	25.9
119	Cocina de Asfalto		320 Gln	2,100	9.6	0.2	9.7	3.5	5.0	1.3	0.5	0.1	8.3	18.7	28.4
120	Planta de Asfalto en frío	M.E. 30	30-60 Ton/Hr.	9,000	21.2	0.7	21.9	17.0	0.0	1.5	0.6	0.2	8.3	27.5	49.4
121	Secador de Aridos	M.E. 50	30-64 Ton/Hr.	8,000	14.1	0.5	14.5	11.2	0.0	0.0	0.0	0.0	8.3	19.6	34.1
122	Planta de Asfalto en frío	M.E. 50	60-115 Ton/Hr.	9,000	30.3	1.0	31.3	24.2	0.0	1.5	0.6	0.2	8.3	34.7	66.1
123	Planta de Asfalto en Caliente (CYBER)		60 Ton/Hr.	32,350	71.8	2.3	74.0	0.0	1,237.5	5.2	2.1	0.0	8.3	1,253.1	1,327.2
124	Planta de Asfalto en Caliente (CIFALLI)		90-120 Ton/Hr.	46,800	69.4	2.2	71.6	0.0	1,987.5	5.2	2.1	0.0	8.3	2,003.1	2,074.7
125	Secador de Aridos	M.E. 70	60-115 Ton/Hr.	8,500	18.4	0.6	19.0	9.8	0.0	6.0	2.4	0.0	8.3	26.5	45.6
126	Pavimentadora sobre oruga	69	10 Pulg.	12,000	33.5	1.1	34.7	22.4	23.3	3.8	1.5	0.0	8.3	59.3	94.0

17,665.2

Vehículos y Camiones

N°	Unidad base para el Cálculo	Potencia (HP)	Capacidad	Peso (Kg.)	Costo de Posesión			Costo de Operación							Costo Horario de Posesión y Operación (a+b)
					Depreciación	Seguro 2.19%	Total (a)	Mant. y Rep.	Consumo de Combustible	Lubr. + Grasas	Filtros	Llantas	Operador	Total (b)	
1	Camioneta Pick-Up 4X2 - C. Simple	90	1,000 Kg	2,100	5.2	0.4	5.5	4.1	21.6	4.3	1.7	0.2	7.8	39.7	45.2
2		90	2,000 Kg	3,000	6.7	0.5	7.2	5.3	23.0	4.6	1.8	0.3	7.8	42.8	50.0
3	Camioneta Pick-Up 4X4 - C. Simple	107	1,000 Kg	2,450	5.7	0.4	6.2	4.6	27.0	4.3	1.7	0.2	7.8	45.6	51.8
4		90	750 Kg	1,850	6.2	0.5	6.7	5.0	21.6	4.3	1.7	0.3	7.8	40.6	47.3
5	Camioneta Pick-Up 4X2 - C. Doble	118	5 Pas.	1,850	6.0	0.4	6.4	4.7	24.3	4.3	1.7	0.3	7.8	43.1	49.5
6	Camioneta Rural 4X4	135	5 Pas.	1,882	7.9	0.6	8.5	6.3	35.8	4.3	1.7	0.3	7.8	56.1	64.6
7	Camioneta Station Wagon 4x2	100	6 Pas.	1,800	5.0	0.4	5.4	4.0	27.0	4.3	1.7	0.3	7.8	45.1	50.4
8		122	1,500 Gln	9,900	16.9	1.6	18.5	12.6	48.8	4.7	1.9	0.4	7.8	76.1	94.5
9	Cisterna de Agua 4X2	145-165	2,000 Gln	13,000	19.3	1.9	21.2	14.5	50.0	4.7	1.9	0.4	7.8	79.2	100.4
10		178-210	3,000 Gln	19,000	23.8	2.3	26.1	14.9	70.0	7.2	2.9	0.6	7.8	103.3	129.4
11	Cisterna de Combustible 4X2	122	2,000 Gln	13,000	20.3	2.0	22.2	12.7	41.3	4.7	1.9	0.4	7.8	68.6	90.8
12	Cisterna de Asfalto 4X2	178-210	2,000 Gln	13,000	23.3	2.2	25.6	14.5	69.9	7.2	2.9	0.5	7.8	102.8	128.4
13	Concretero 4X2	178-210	4 M ³	19,000	46.6	4.5	51.1	29.1	69.9	8.9	3.6	0.5	7.8	119.8	170.9
14	Concretero 6X4	300	6 M ³	26,000	53.7	5.2	58.8	33.5	100.0	10.7	4.3	0.5	7.8	156.8	215.7
15	Dumper 6X4	146-240	12 M ³	32,200	48.3	4.7	53.0	30.1	48.3	5.0	2.0	1.0	7.8	94.2	147.1
16	Dumper 6x6	146-240	13 M ³	38,400	57.9	5.6	63.5	36.0	69.9	7.2	2.9	1.5	7.8	125.3	188.8
17	Camión Imprimador 6X2	178-210	1,800 Gln	16,475	23.5	2.3	25.7	14.7	69.9	10.6	4.2	0.2	7.8	107.4	133.2
18		122	8 Ton.	13,000	25.5	2.4	27.9	15.9	32.5	10.5	4.2	0.4	7.8	71.2	99.1
19	Plataforma 4X2	178-210	12 Ton.	19,000	32.2	3.1	35.3	20.1	35.0	10.5	4.2	0.4	7.8	77.9	113.2
20	Plataforma 6X4	300	19 Ton.	26,000	64.5	6.2	70.7	40.3	81.3	17.6	7.0	0.5	7.8	154.5	225.2
21	Semitrayler 6X4	330	35 Ton.	42,600	47.4	4.6	51.9	35.5	97.4	17.8	7.1	0.4	7.8	166.0	217.9
22		330	40 Ton.	54,420	48.3	4.6	53.0	36.2	97.4	17.8	7.1	0.5	7.8	166.8	219.8
23		120-140	4 M ³	11,500	13.5	1.3	14.8	13.5	60.0	7.2	2.9	0.4	7.8	91.7	106.5
24	Volquete 4X2	140-210	6 M ³	15,000	18.2	1.8	19.9	18.1	69.9	10.7	4.3	0.5	7.8	111.3	131.2
25		210-280	8 M ³	19,000	25.1	2.4	27.5	25.0	93.3	14.2	5.7	1.0	7.8	146.9	174.5
26	Volquete 6X4	330	10 M ³	26,000	25.6	2.5	28.1	25.5	109.9	17.8	7.1	1.0	7.8	169.1	197.3
27	Volquete 6X4	420	15 M ³	35,454	34.9	3.4	38.2	34.8	133.3	18.0	7.2	0.5	7.8	201.6	239.8

3482.4

Equipos Diversos

N°	Unidad base para el Cálculo	Potencia (HP)	Capacidad	Peso (Kg.)	Costo de Posesión			Costo de Operación							Costo Horario de Posesión y Operación (a+b)
					Depreciación	Seguro 0.46%	Total (a)	Mant. y Rep.	Consumo de Combustible	Lubr. + Grasas	Filtros	Llantas	Operador	Total (b)	
1	Faja Transportadora 18"X40'	M.E. 3 Kw	150 Ton/Hr.	4,000	5.9	0.5	6.5	4.0	0.0	0.2	0.1	0.0	0.0	4.2	10.7
2	Faja Transportadora 18"X50'	M.E. 3 Kw	150 Ton/Hr.	4,000	6.4	0.6	7.0	4.3	0.0	0.2	0.1	0.0	0.0	4.5	11.5
3	Faja Transportadora 30"X40'	M.E. 5 Kw	550 Ton/Hr.	7,800	6.7	0.6	7.3	4.5	0.0	0.2	0.1	0.0	0.0	4.7	12.0
4	Faja Transportadora 30"X50'	M.E. 5 Kw	800 Ton/Hr.	12,000	7.6	0.7	8.2	5.1	0.0	0.2	0.1	0.0	0.0	5.3	13.5
5	Faja Transportadora 30"X60'	M.E. 7 Kw	800 Ton/Hr.	15,000	10.1	0.9	11.0	6.7	0.0	0.2	0.1	0.0	0.0	7.0	18.0
6		38	20 Kw	500	3.7	0.4	4.1	3.4	0.0	0.0	0.0	0.0	0.0	3.4	7.5
7		56	37.5 Kw	720	4.2	0.4	4.7	3.9	0.0	0.0	0.0	0.0	0.0	3.9	8.6
8		89	50 Kw	1,150	5.1	0.5	5.6	4.7	0.0	0.0	0.0	0.0	0.0	4.7	10.3
9		116	75 Kw	1,500	6.0	0.6	6.6	5.6	0.0	0.0	0.0	0.0	0.0	5.6	12.2
10		140	90 Kw	1,700	7.6	0.8	8.4	7.1	0.0	0.0	0.0	0.0	0.0	7.1	15.5