	Ep	Es	Ip	Is	Pp	Ps	Np	Ns	eff	step
1	12	120	20	1.8			40			
2		240	11		1320	1095	311			
3	24	48		.9				220	.82	
4		24	6	11.5			60		.92	
5	100	24	8					264	.88	
6	110		10	3.6			210		.79	
7	130	116		17.2			600	30	.875	
8	200		14			2408	444	53		
9	210	48			2822		146			
10	220	110	18			3682	1800			
11	230	110	20		4600	3680	126			
12	240	120	22	37.96		4555		168		
13	240	120	24	43.68			555			
14	240	480		12.22				154	.96	
15			2.8	.13	16.8		89		.98	
16		120	1.1		13.2			1770	.82	
17	24		1.8	.34		41.9		1630		
18		100	3.2	1.10	115.2		229			
19			1.2	2.04	57.6	48.9		241		
20	66			20.9	132	125.4	820			
21	110	36			330	293.7		216		
22	120	240	18		2160		1100		.66	
23	480		1.2	3.6		437.7		65	.76	
24	480		1.2	3.6		437.76		65	.86	
25		48			249.6	216.8	800	140		

Primary Voltage	Ep = Np Es / Ns	Ep = Pp/Ip	Ep = IsEs/(eff Ip)
Secondary Voltage	Es = Ep Ns / Np	Es = Ps / Is	Es = Ip Ep eff / Is
Primary Current	Ip = Is Es / (eff Ep)	Ip = Pp / Ep	Ip = Ns Is / (Np eff)
Secondary Current	Is = Ip Ep eff / Es	Is = Ps / Es	Is = Ip Np eff / Ns
Primary Power	Pp = Ep Ip	Pp = Ps / eff	Pp = Es Is / eff
Secondary Power	Ps = Es Is	Ps = Pp eff	Ps = Ep Ip eff
Primary Turns	Np = Ep Ns / Es	Np = Ns Is / (Ip eff)	
Secondary Turns	Ns = Np Es / Ep	Ns = Ip Np eff / Is	
efficiency	eff = Is Es / (Ip Ep)	eff = Ps / Pp	eff = IsNs/(IpNp)
ratio of Ep higher	ratio = Np/Ns : 1	ratio = Ep / Es : 1	
ratio if Es higher	ratio = 1 : Ns / Np	ratio = 1 : Es / Ep	