

# RATED STEAM CAPACITY TABLE

## TYPE E2 MAIN VALVE

**TYPE E2  
CAPACITY TABLE**

### Pounds of Saturated Steam per Hour

VALVE INFO  
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PRESSURE-psig		VALVE SIZE (inches)												
INLET	REDUCED	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12
15	12	150	230	375	545	875	1350	1905	2840	4010	5060	9230	14850	22195
	10	245	375	605	880	1415	2185	3085	4595	6490	8195	14945	24040	35930
	8	295	455	735	1070	1715	2650	3740	5570	7870	9935	18120	29145	43560
	5	345	530	860	1245	2000	3085	4360	6495	9170	11580	21110	33960	50760
	2.5	375	575	930	1345	2160	3340	4715	7025	9925	12530	22850	36755	54935
12	9	145	220	355	515	825	1275	1800	2680	3785	4780	8715	14020	20955
	7	230	355	570	830	1330	2060	2910	4330	6115	7720	14080	22650	33855
	5	280	430	690	1005	1610	2490	3515	5235	7395	9340	17030	27390	40940
	2	325	495	805	1165	1870	2890	4080	6075	8585	10835	19760	31785	47510
10	7	135	210	340	490	790	1220	1725	2570	3630	4580	8355	13440	20090
	5	220	340	550	795	1275	1970	2780	4145	5855	7390	13475	21670	32395
	2	280	435	705	1020	1635	2525	3565	5315	7505	9475	17280	27795	41545
	1" HG VAC	310	480	775	1125	1805	2795	3945	5875	8295	10475	19095	30720	45915
9	6	135	205	330	480	775	1195	1685	2510	3550	4480	8170	13140	19645
	4	215	330	535	775	1245	1925	2715	4045	5715	7215	13160	21165	31640
	2	260	400	645	935	1500	2320	3275	4880	6890	8700	15865	25515	38140
	2" HG VAC	300	460	745	1080	1730	2675	3780	5625	7950	10035	18300	29435	43995
8	5	130	200	325	470	755	1165	1645	2455	3465	4375	7980	12835	19185
	3	210	325	520	755	1215	1875	2650	3950	5575	7040	12835	20650	30865
	3.1" HG VAC	285	440	710	1035	1660	2565	3620	5390	7615	9610	17530	28195	42145
7	4	125	195	315	460	735	1140	1605	2395	3380	4270	7785	12520	18715
	2	205	315	510	735	1185	1830	2580	3845	5435	6860	12505	20120	30070
	4.3" HG VAC	275	420	680	985	1585	2450	3460	5150	7275	9185	16750	26945	40275
6	3	125	190	310	445	720	1110	1565	2330	3295	4160	7585	12200	18235
	1	200	305	495	715	1150	1780	2510	3740	5285	6675	12170	19575	29255
	5.5" HG VAC	260	405	650	945	1515	2340	3305	4925	6955	8780	16010	25755	38495
5	2	120	185	300	435	700	1080	1525	2270	3205	4045	7380	11870	17740
	0	195	295	480	695	1120	1730	2440	3635	5135	6480	11820	19010	28415
	6.7" HG VAC	250	380	615	895	1435	2215	3130	4660	6485	8310	15155	24380	36440

Based on 1 psi accuracy of regulation.

K-Factor is included in the above tabulations.

#### TYPE E2 MAIN VALVE ONLY

Used at such low pressure drops, a 1 psi deviation of reduced pressure at rated capacity is a significant portion of the total drop. It must be accounted for in calculations dealing with a subcritical flow condition.

Also, because E2 valve opening, for 1 psi accuracy of regulation, varies with the pressure drop, a regulation factor K is inserted in the formula.

$$Cv = \frac{W}{2.1 K \sqrt{\Delta P'(P_1 + P_2)}}$$

Where K = Factor from accompanying table  
Cv = Valve coefficient

W = Flow, #/Hr. (saturated steam)

$\Delta P'$  =  $\Delta P$  nominal plus 1 psi

$P_1$  = Inlet pressure, psia (psi + 14.7)

$P_2$  = Reduced pressure, psia (psi + 14.7)

$P'_2$  =  $P_2$  nominal (set point value) minus 1 psi

$\Delta P$  = Pressure drop, psi

NOTE: When computing W for safety valve sizing, use K = 1.0

Size	E2 Cv Valve Coefficient	$\Delta P$ Nominal	K Factor
3/4	7.6		
1	11.7		
1 1/4	18.9	3	0.635
1 1/2	27.4	4	0.785
2	44	5	0.855
2 1/2	68	6	0.895
3	96	7	0.915
4	143	8	0.928
5	202	9	0.935
6	255	10	0.937
8	465	11	0.938
10	748	12	0.940
12	1118	15	0.940

