

EGYDIMENZIÓS IZENTRÓPIKUS GÁZTÁBLÁZAT. ($\gamma=1.3$)

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$\gamma=1.3$

$$M^* = M \cdot \left(\frac{2 + (\gamma - 1) \cdot M^2}{\gamma + 1} \right)^{-\frac{1}{2}}$$

$$M^* = M \cdot \left(\frac{20 + 3 \cdot M^2}{23} \right)^{-\frac{1}{2}}$$

~~$$\frac{A}{A^*} = M \cdot \left(\frac{2 + (\gamma - 1) \cdot M^2}{\gamma + 1} \right)^{\frac{\gamma + 1}{2 \cdot (\gamma - 1)}}$$~~

$$\frac{A}{A^*} = M \cdot \left(\frac{20 + 3 \cdot M^2}{23} \right)^{\frac{23}{6}}$$

$$\frac{p}{p_o} = \left(\frac{2 + (\gamma - 1) \cdot M^2}{2} \right)^{-\frac{\gamma}{\gamma - 1}}$$

$$\frac{p}{p_o} = \left(\frac{20 + 3 \cdot M^2}{20} \right)^{-\frac{13}{3}}$$

$$\frac{\rho}{\rho_o} = \left(\frac{2 + (\gamma - 1) \cdot M^2}{2} \right)^{-\frac{1}{\gamma - 1}}$$

$$\frac{\rho}{\rho_o} = \left(\frac{20 + 3 \cdot M^2}{20} \right)^{-\frac{10}{3}}$$

$$\frac{F}{F^*} =$$

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$$= \frac{1 + \gamma M^2}{M} \cdot \left[2(\gamma + 1) \cdot \left(\frac{2 + (\gamma - 1) \cdot M^2}{2} \right) \right]^{-\frac{1}{2}}$$

$$= \frac{10 + 13 \cdot M^2}{10 \cdot M} \cdot \left(\frac{460 + 69 \cdot M^2}{100} \right)^{-\frac{1}{2}}$$

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M	M*	A/A*	p/p ₀	q/q ₀	T/T ₀	F/F*	(A/A).(p/p ₀)
0	0	∞	1	1	1	∞	∞
0.05	0.05361	11.7214	0.99838	0.99875	0.99963	9.35360	11.7024
0.10	0.10716	5.88600	0.99353	0.99502	0.99850	4.71960	5.84789
0.15	0.16059	3.95224	0.98551	0.98883	0.99664	3.19388	3.89495
<u>0.20</u>	<u>0.21384</u>	<u>2.99401</u>	<u>0.97441</u>	<u>0.98026</u>	<u>0.99404</u>	<u>2.44516</u>	<u>2.91740</u>
0.25	0.26685	2.42616	0.96037	0.96937	0.99071	2.00716	2.33002
0.30	0.31956	2.05366	0.94355	0.95629	0.98668	1.72441	1.93772
0.35	0.37193	1.79296	0.92413	0.94111	0.98196	1.53030	1.65693
0.40	0.42390	1.60232	0.90233	0.92399	0.97656	1.39148	1.44582
<u>0.45</u>	<u>0.47541</u>	<u>1.45857</u>	<u>0.87839</u>	<u>0.90507</u>	<u>0.97052</u>	<u>1.28944</u>	<u>1.28119</u>
0.50	0.52641	1.34785	0.85255	0.88452	0.96386	1.21303	1.14911
0.55	0.57687	1.26136	0.82506	0.86250	0.95659	1.15518	1.04070
0.60	0.62673	1.19324	0.79620	0.83920	0.94877	1.11116	0.95007
0.65	0.67596	1.13949	0.76623	0.81479	0.94040	1.07767	0.87311
<u>0.70</u>	<u>0.72451</u>	<u>1.09724</u>	<u>0.73540</u>	<u>0.78945</u>	<u>0.93153</u>	<u>1.05238</u>	<u>0.80691</u>
0.75	0.77236	1.06443	0.70397	0.76337	0.92219	1.03355	0.74933
0.80	0.81947	1.03954	0.67218	0.73671	0.91241	1.01989	0.69876
0.85	0.86581	1.02142	0.64026	0.70965	0.90222	1.01040	0.65398
0.90	0.91136	1.00921	0.60842	0.68234	0.89166	1.00431	0.61402
<u>0.95</u>	<u>0.95610</u>	<u>1.00223</u>	<u>0.57685</u>	<u>0.65494</u>	<u>0.88077</u>	<u>1.00101</u>	<u>0.57814</u>
1.00	1.00000	1.00000	0.54573	0.62759	0.86957	1.00000	0.54573
1.05	1.04305	1.00212	0.51521	0.60041	0.85809	1.00089	0.51630
1.10	1.08524	1.00831	0.48542	0.57353	0.84638	1.00335	0.48946
1.15	1.12655	1.01836	0.45649	0.54705	0.83446	1.00711	0.46487
<u>1.20</u>	<u>1.16698</u>	<u>1.03210</u>	<u>0.42850</u>	<u>0.52106</u>	<u>0.82237</u>	<u>1.01195</u>	<u>0.44226</u>
1.25	1.20652	1.04945	0.40154	0.49565	0.81013	1.01768	0.42140
1.30	1.24517	1.07035	0.37566	0.47089	0.79777	1.02414	0.40209
1.35	1.28293	1.09477	0.35090	0.44683	0.78531	1.03120	0.38416
1.40	1.31980	1.12274	0.32730	0.42353	0.77280	1.03875	0.36748
<u>1.45</u>	<u>1.35579</u>	<u>1.15429</u>	<u>0.30487</u>	<u>0.40102</u>	<u>0.76024</u>	<u>1.04668</u>	<u>0.35191</u>
1.50	1.39089	1.18949	0.28361	0.37933	0.74766	1.05493	0.33735
1.55	1.42512	1.22843	0.26352	0.35849	0.73509	1.06341	0.32372
1.60	1.45848	1.27124	0.24457	0.33849	0.72254	1.07206	0.31091
1.65	1.49099	1.31804	0.22675	0.31935	0.71004	1.08084	0.29887
1.70	1.52265	1.36899	0.21003	0.30107	0.69759	1.08970	0.28753

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M	M*	A/A*	p/p ₀	ρ/ρ ₀	T/T ₀	F/F*	(A/A*)·(p/p ₀)
1.75	1.55347	1.42427	0.19436	0.28365	0.68523	1.09860	0.27682
1.80	1.58348	1.48408	0.17972	0.26706	0.67295	1.10750	0.26671
1.85	1.61268	1.54863	0.16605	0.25129	0.66077	1.11638	0.25715
1.90	1.64108	1.61816	0.15331	0.23633	0.64872	1.12522	0.24808
<u>1.95</u>	<u>1.66871</u>	<u>1.69292</u>	<u>0.14147</u>	<u>0.22215</u>	<u>0.63679</u>	<u>1.13399</u>	<u>0.23949</u>
2.00	1.69558	1.77319	0.13046	0.20874	0.62500	1.14268	0.23133
2.05	1.72171	1.85926	0.12025	0.19605	0.61336	1.15126	0.22358
2.10	1.74710	1.95145	0.11079	0.18408	0.60187	1.15974	0.21620
2.15	1.77178	2.05009	0.10203	0.17278	0.59054	1.16809	0.20918
<u>2.20</u>	<u>1.79577</u>	<u>2.15555</u>	<u>0.09393</u>	<u>0.16213</u>	<u>0.57937</u>	<u>1.17632</u>	<u>0.20248</u>
2.25	1.81908	2.26821	0.08645	0.15210	0.56838	1.18440	0.19609
2.30	1.84173	2.38846	0.07955	0.14267	0.55757	1.19235	0.19000
2.35	1.86373	2.51675	0.07318	0.13380	0.54693	1.20015	0.18417
2.40	1.88511	2.65352	0.06731	0.12546	0.53648	1.20779	0.17860
<u>2.45</u>	<u>1.90588</u>	<u>2.79925</u>	<u>0.06190</u>	<u>0.11763</u>	<u>0.52621</u>	<u>1.21529</u>	<u>0.17328</u>
2.50	1.92605	2.95446	0.05692	0.11029	0.51613	1.22262	0.16818
2.55	1.94565	3.11966	0.05234	0.10340	0.50623	1.22981	0.16329
2.60	1.96468	3.29543	0.04813	0.09693	0.49652	1.23684	0.15861
2.65	1.98317	3.48236	0.04426	0.09087	0.48700	1.24371	0.15412
<u>2.70</u>	<u>2.00113</u>	<u>3.68107</u>	<u>0.04070</u>	<u>0.08520</u>	<u>0.47767</u>	<u>1.25043</u>	<u>0.14980</u>
2.75	2.01858	3.89221	0.03742	0.07988	0.46852	1.25699	0.14567
2.80	2.03553	4.11647	0.03442	0.07490	0.45956	1.26340	0.14169
2.85	2.05199	4.35458	0.03166	0.07023	0.45078	1.26966	0.13787
2.90	2.06799	4.60730	0.02913	0.06587	0.44218	1.27578	0.13419
<u>2.95</u>	<u>2.08353</u>	<u>4.87541</u>	<u>0.02680</u>	<u>0.06178</u>	<u>0.43377</u>	<u>1.28174</u>	<u>0.13066</u>
3.00	2.09863	5.15977	0.02466	0.05796	0.42553	1.28757	0.12725
3.50	2.22817	9.10985	0.01090	0.03092	0.35242	1.33849	0.09926
4.00	2.32632	15.9441	498E-05	0.01692	0.29412	1.37809	0.07935
4.50	2.40162	27.3870	236E-05	954E-05	0.24768	1.40900	0.06472
<u>5.00</u>	<u>2.46021</u>	<u>45.9565</u>	<u>117E-05</u>	<u>555E-05</u>	<u>0.21053</u>	<u>1.43334</u>	<u>0.05370</u>
6.00	2.54337	120.097	321E-06	205E-05	0.15625	1.46828	0.03856
7.00	2.59779	285.337	101E-06	847E-06	0.11976	1.49137	0.02893
8.00	2.63503	623.124	361E-07	382E-06	0.09434	1.50727	0.02247
9.00	2.66151	1265.61	142E-07	186E-06	0.07605	1.51862	0.01793
<u>10.00</u>	<u>2.68095</u>	<u>2416.12</u>	<u>606E-08</u>	<u>969E-07</u>	<u>0.06250</u>	<u>1.52698</u>	<u>0.01463</u>
∞	2.769	∞	0	0	0	1.565	0