

99 High work Low Aspect Ratio Turbine NASA TM83655. 1984

Reynolds: RNI=0.100 f=0.950 RNI=1.000 f=1.000

Min Pressure Ratio

2.017000000	0.010000000	0.025000000	0.050000001	0.075000003
0.100000001	0.200000003	0.300000012	0.400000006	0.500000000
0.600000024	0.699999988	0.800000012	0.899999976	1.000000000
1.049999952	1.100000024			
0.010000000	0.999870121	0.999563217	0.998752952	0.997569084
0.996011674	0.986046791	0.970105290	0.948187172	0.920292497
0.882379532	0.844442785	0.804677427	0.763083518	0.719660997
0.697264075	0.674409926			

Max Pressure Ratio

2.017000000	0.010000000	0.025000000	0.050000001	0.075000003
0.100000001	0.200000003	0.300000012	0.400000006	0.500000000
0.600000024	0.699999988	0.800000012	0.899999976	1.000000000
1.049999952	1.100000024			
0.010000000	1.010851860	1.013842940	1.024596214	1.042559743
1.067733765	1.240533590	1.528699517	1.932231307	2.451128960
3.012532234	3.470337868	3.849668026	4.150521755	4.372900009
4.454660416	4.516801834			

Mass Flow

17.05100000	0.000000000	0.020408163	0.040816326	0.061224490
0.081632651	0.102040820	0.122448981	0.142857149	0.163265303
0.183673471	0.204081640	0.224489793	0.244897962	0.265306115
0.285714298	0.306122452	0.326530606	0.346938789	0.367346942
0.387755096	0.408163279	0.428571433	0.448979586	0.469387770
0.489795923	0.510204077	0.530612230	0.551020384	0.571428597
0.591836751	0.612244904	0.632653058	0.653061211	0.673469365
0.693877578	0.714285731	0.734693885	0.755102038	0.775510192
0.795918345	0.816326559	0.836734712	0.857142866	0.877551019
0.897959173	0.918367326	0.938775539	0.959183693	0.979591846
1.000000000				
0.010000000	0.000243902	0.031663973	0.062681742	0.093699515
0.123747982	0.148949921	0.177059770	0.202261716	0.226494342
0.247819066	0.269143790	0.289852709	0.304582655	0.319643110
0.332486212	0.345329314	0.358904094	0.370283782	0.382651389
0.395238250	0.404422820	0.416371614	0.429214686	0.438643157
0.449209809	0.459247142	0.468085110	0.475941092	0.485761046
0.494599015	0.503633380	0.510965645	0.520130932	0.529754519
0.537545025	0.546093583	0.553245604	0.562674105	0.570964336
0.580392778	0.588870704	0.596973300	0.606401742	0.613553762
0.622258604	0.631096542	0.637970567	0.644844532	0.651718497
0.658592463				
0.025000000	0.000731707	0.025895143	0.055042319	0.089525372
0.118821606	0.146317512	0.174959078	0.201309323	0.224222586
0.249590829	0.272176772	0.292798698	0.310474634	0.332165331
0.348223090	0.365957439	0.382651389	0.399345338	0.412111282
0.427004904	0.441571206	0.454337150	0.468085110	0.482815057
0.495581001	0.507364988	0.519148946	0.530632317	0.544413626
0.555755913	0.568724215	0.579253495	0.590595782	0.601125062
0.612467349	0.622996747	0.633526027	0.643242300	0.652958572
0.661861837	0.669952035	0.679668307	0.691010654	0.699100971
0.707191229	0.715281487	0.723371744	0.731462002	0.741178274
0.750081539				

0.050000001	0.000731707	0.029666983	0.060878687	0.091846481
0.128911853	0.163375571	0.196538478	0.231002212	0.262864351
0.297110558	0.332885504	0.363343239	0.393800974	0.420456827
0.445853800	0.466683030	0.489796132	0.512909234	0.534796894
0.555272162	0.575747192	0.597523153	0.614095926	0.633317113
0.651143789	0.669017315	0.686521769	0.705327034	0.722831488
0.739035070	0.755238831	0.771442473	0.786345243	0.800500333
0.814478040	0.829262316	0.840505183	0.855370820	0.870236397
0.883963883	0.894276500	0.905364096	0.915313542	0.924124837
0.936350584	0.948576391	0.958525777	0.971889853	0.978424609
0.990650415				
0.075000003	-0.000915833	0.038063064	0.080164902	0.120812781
0.165822521	0.207924366	0.247118309	0.290674090	0.334420890
0.380097866	0.421207190	0.462316483	0.501141906	0.544535100
0.578792810	0.610766709	0.640456796	0.669986665	0.701290250
0.731810749	0.761500835	0.788906991	0.809461653	0.830016315
0.849632978	0.871463418	0.892329931	0.912267089	0.931316614
0.949517488	0.966921806	0.983583272	0.999561369	1.014921904
1.029729366	1.044061065	1.057994485	1.071615577	1.085009456
1.096762657	1.108483076	1.120276093	1.132246614	1.143246412
1.154656887	1.166604757	1.176212549	1.188153744	1.196459770
1.208400607				
0.100000001	0.000975610	0.046526656	0.104390241	0.157398373
0.218861789	0.271219522	0.323577225	0.380487800	0.430569112
0.485203266	0.539837420	0.594471574	0.639999986	0.692357719
0.731056929	0.770274639	0.803877234	0.837479830	0.863327920
0.894345701	0.922778666	0.948626816	0.979644597	1.000323057
1.023586392	1.044264913	1.067528248	1.090791583	1.108885288
1.129563808	1.145072699	1.163166404	1.181260109	1.199353814
1.217447519	1.230371594	1.245880485	1.263974190	1.279483080
1.297576785	1.310500860	1.328594565	1.349272966	1.362197042
1.377705932	1.395799637	1.406138897	1.419062972	1.431987047
1.444911122				
0.200000003	-3.3556E-017	0.104577273	0.210374057	0.320929050
0.432943225	0.521717250	0.628095686	0.723027349	0.814041674
0.893609226	0.984623611	1.069914341	1.149482012	1.229049683
1.291447043	1.359567881	1.427688599	1.484362721	1.545397162
1.603434324	1.654384971	1.705335736	1.744839787	1.784343600
1.818124175	1.857628107	1.893952489	1.925189376	1.961672187
1.994392514	2.025832653	2.053433180	2.082313538	2.104794025
2.127274513	2.152314663	2.174795151	2.195995569	2.217195988
2.238396406	2.255756855	2.275676966	2.291757107	2.307837725
2.323918104	2.339998484	2.354799032	2.368319035	2.383119583
2.395359993				
0.300000012	0.003902439	0.173658535	0.321951210	0.501463413
0.657561004	0.809756100	0.950243890	1.082926869	1.211707354
1.344390273	1.470175385	1.585008025	1.679425836	1.761084557
1.835087776	1.906341434	1.976585388	2.035772324	2.099512100
2.151870012	2.199674845	2.242926836	2.290937901	2.324877977
2.365231276	2.404755592	2.445273638	2.482913017	2.516372681
2.547464609	2.579339266	2.610640764	2.638925314	2.664496422
2.688319445	2.710912704	2.732439280	2.752970695	2.772559404
2.791239977	2.809036016	2.825965881	2.842036724	2.857256174
2.871632576	2.885105610	2.897638559	2.909413099	2.921217203
2.933261633				
0.400000006	0.001951220	0.234146342	0.454208434	0.662939727

0.867051601	1.065732718	1.260560989	1.446218371	1.613967180
1.761009216	1.892066121	2.012309074	2.122579336	2.221545219
2.308875799	2.385080814	2.451233864	2.510078669	2.564806700
2.616501808	2.664251328	2.706743002	2.743453503	2.775068521
2.803109884	2.829187632	2.854237080	2.878275871	2.901002169
2.922311068	2.941992998	2.959638834	2.975340128	2.989593267
3.002577305	3.014387131	3.025408983	3.036118984	3.046808958
3.057451963	3.067626238	3.076900959	3.085168362	3.092548370
3.099573612	3.106492043	3.113272429	3.119742870	3.125680447
3.131062508				
0.500000000	0.001300813	0.292682916	0.558677256	0.835158348
1.120144248	1.385632157	1.615671396	1.813608289	1.988204241
2.144881964	2.280699015	2.394560575	2.491029739	2.574566126
2.647410631	2.710329771	2.763922215	2.809308290	2.848444700
2.883516312	2.915577173	2.944418430	2.969445229	2.990787506
3.009612083	3.026987076	3.043267250	3.058436155	3.072257042
3.084281206	3.094389915	3.103106499	3.110848665	3.117594004
3.123767614	3.130093098	3.136321783	3.141684771	3.146198750
3.150102377	3.153036356	3.154982328	3.156762600	3.158732891
3.160660267	3.162246227	3.163222790	3.163832903	3.164344072
3.165024042				
0.600000024	0.001300813	0.319787860	0.619063258	0.933053613
1.282584667	1.567771077	1.816757560	2.045338154	2.238456964
2.392202139	2.516306162	2.617780685	2.705193281	2.779606342
2.839027405	2.886254787	2.923856974	2.957199574	2.987688303
3.014091730	3.037539005	3.059744120	3.079059362	3.094546318
3.106837034	3.116785765	3.125805140	3.133307934	3.138541460
3.144580126	3.150987387	3.154549360	3.156288147	3.157088518
3.157535315	3.157773972	3.158032179	3.158225060	3.158206701
3.158071995	3.157846928	3.157655478	3.157517195	3.157450676
3.157420635	3.157416582	3.157416344	3.157416344	3.157416344
3.157416344				
0.699999988	0.001300813	0.359636664	0.685122550	1.016273975
1.338920712	1.673834324	1.973081827	2.195836544	2.375329494
2.512735367	2.628164053	2.728692293	2.804074526	2.861334085
2.911959887	2.955330610	2.991106749	3.024057627	3.053462744
3.077716351	3.096245527	3.109141350	3.119829178	3.128513813
3.135207176	3.140163422	3.143556595	3.145871878	3.147413015
3.148545265	3.149308920	3.149714947	3.149807453	3.149718523
3.149617910	3.149553061	3.149529219	3.149521589	3.149521589
3.149521589	3.149521589	3.149521589	3.149521589	3.149521589
3.149521589	3.149521589	3.149521589	3.149521589	3.149521589
0.800000012	-0.003252032	0.366732627	0.721011460	1.070540071
1.424115777	1.726459742	2.007900715	2.235281706	2.440583706
2.582978964	2.695255041	2.781797171	2.853907108	2.913135529
2.960579395	2.999358177	3.030918837	3.057667494	3.079343557
3.096018314	3.108887196	3.118617058	3.126110315	3.131587982
3.135412455	3.138117313	3.139864683	3.140884161	3.141376734
3.141559839	3.141617775	3.141625404	3.141626835	3.141626835
3.141626835	3.141626835	3.141626835	3.141626835	3.141626835
3.141626835	3.141626835	3.141626835	3.141626835	3.141626835
3.141626835	3.141626835	3.141626835	3.141626835	3.141626835
3.141626835	3.141626835	3.141626835	3.141626835	3.141626835
0.899999976	0.001300813	0.375589609	0.736818492	1.100297809
1.469249487	1.788325191	2.040802479	2.289599180	2.463987350

2.601913929	2.713377714	2.801495314	2.872468472	2.930139542
2.976481676	3.012780190	3.041391373	3.065254927	3.083904505
3.097852468	3.108929873	3.117486477	3.123847723	3.128130436
3.130737066	3.132301092	3.133136034	3.133540392	3.133692026
3.133725405	3.133732080	3.133732080	3.133732080	3.133732080
3.133732080	3.133732080	3.133732080	3.133732080	3.133732080
3.133732080	3.133732080	3.133732080	3.133732080	3.133732080
3.133732080	3.133732080	3.133732080	3.133732080	3.133732080
3.133732080	3.133732080	3.133732080	3.133732080	3.133732080
1.000000000	0.000487805	0.405853659	0.792845547	1.152520299
1.488057852	1.792958021	2.074177265	2.286022186	2.466393948
2.604289770	2.717756987	2.810600042	2.885798454	2.941536665
2.979270458	3.010871887	3.036814451	3.057780743	3.075125694
3.088948011	3.099422932	3.107135296	3.112610817	3.116354704
3.118637800	3.119915485	3.120515823	3.120733261	3.120800972
3.120812416	3.120813370	3.120813370	3.120813370	3.120813370
3.120815277	3.120811701	3.120805025	3.120805025	3.120821238
3.120853901	3.120861053	3.120846272	3.120826006	3.120815039
3.120813370	3.120813370	3.120813370	3.120813370	3.120813370
3.120813370	3.120813370	3.120813370	3.120813370	3.120813370
1.049999952	0.000487805	0.400414646	0.774045765	1.135189056
1.489439130	1.839493632	2.089550734	2.314242125	2.487648249
2.619588375	2.728952408	2.818842173	2.890611649	2.943171740
2.979240417	3.009464025	3.034351826	3.054499388	3.070937872
3.083868027	3.093734503	3.101029158	3.106196404	3.109789610
3.112033129	3.113333464	3.114044428	3.114351988	3.114463806
3.114515305	3.114572287	3.114638567	3.114683151	3.114704370
3.114711046	3.114710331	3.114710569	3.114717722	3.114727259
3.114733458	3.114729881	3.114722252	3.114715815	3.114713430
3.114712954	3.114712954	3.114712954	3.114712954	3.114712954
3.114712954	3.114712954	3.114712954	3.114712954	3.114712954
1.100000024	0.001626016	0.382875621	0.756074071	1.129709959
1.490108013	1.817388296	2.098392248	2.339034557	2.514405012
2.647273540	2.754421473	2.837450743	2.897903204	2.943263292
2.977910042	3.007002115	3.030962467	3.050323248	3.066084623
3.078433990	3.087818861	3.094794750	3.099804401	3.103365660
3.105608702	3.106933832	3.107747078	3.108093500	3.108188391
3.108236551	3.108362198	3.108524799	3.108596087	3.108609676
3.108612537	3.108612537	3.108612537	3.108612537	3.108612537
3.108612537	3.108612537	3.108612537	3.108612537	3.108612537
3.108612537	3.108612537	3.108612537	3.108612537	3.108612537
3.108612537	3.108612537	3.108612537	3.108612537	3.108612537

Efficiency

17.05100000	0.000000000	0.020408163	0.040816326	0.061224490
0.081632651	0.102040820	0.122448981	0.142857149	0.163265303
0.183673471	0.204081640	0.224489793	0.244897962	0.265306115
0.285714298	0.306122452	0.326530606	0.346938789	0.367346942
0.387755096	0.408163279	0.428571433	0.448979586	0.469387770
0.489795923	0.510204077	0.530612230	0.551020384	0.571428597
0.591836751	0.612244904	0.632653058	0.653061211	0.673469365
0.693877578	0.714285731	0.734693885	0.755102038	0.775510192
0.795918345	0.816326559	0.836734712	0.857142866	0.877551019
0.897959173	0.918367326	0.938775539	0.959183693	0.979591846
1.000000000	1.072824836	-0.579459429	0.091067828	0.207655221
0.010000000	1.072824836	-0.579459429	0.091067828	0.207655221

0.252698570	0.264190108	0.277916431	0.281928897	0.283298641
0.280193686	0.277755737	0.275080800	0.266572207	0.259758502
0.251972616	0.245269656	0.240010977	0.233783692	0.228957519
0.224801242	0.218961790	0.215329036	0.212541178	0.208165959
0.204752326	0.201358080	0.197658464	0.193795279	0.191079885
0.188139394	0.185480490	0.182321370	0.180069104	0.178127602
0.175640285	0.173564523	0.171130076	0.169585854	0.167757154
0.166382730	0.164787143	0.163158894	0.161997288	0.160241723
0.159000501	0.157852098	0.156231374	0.154680997	0.153196484
0.151773795				
0.025000000	1.738508105	4.056973457	-2.693151712	-0.367339820
0.050688673	0.218103930	0.317066580	0.370469987	0.395206571
0.420958608	0.433111519	0.437915623	0.435316116	0.441293925
0.435863018	0.434141427	0.430990636	0.428255737	0.420345187
0.416158050	0.412019759	0.406176388	0.402013212	0.399311751
0.394820124	0.389744192	0.385093242	0.380530745	0.378333211
0.374242157	0.371763736	0.367538214	0.364208251	0.360492021
0.357594222	0.354302913	0.351209104	0.347754568	0.344491661
0.340903431	0.337007701	0.334270805	0.332610697	0.329202086
0.325958580	0.322862744	0.319907665	0.317086846	0.315202385
0.312999427				
0.050000001	1.802922964	2.572273731	7.404502869	-2.978528738
-0.570059955	-0.014012973	0.227232844	0.371626914	0.453173727
0.504851103	0.573367119	0.599276364	0.619877338	0.633544028
0.635489762	0.629186928	0.625821948	0.620679498	0.609859109
0.604335725	0.599465668	0.596917331	0.587886453	0.581346869
0.576966763	0.571520269	0.566143036	0.562568903	0.557988763
0.552514553	0.547442079	0.542737603	0.537236035	0.534820259
0.528809488	0.521390200	0.514417589	0.510535121	0.506874263
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0.635964930	0.629188418	0.622114122	0.614808321	0.607329905
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