80 kgf ENGINE | ALTITUDE–MACH PERFORMANCE CHARACTERISTICS

Net thrust, specific fuel consumption, burner fuel flow, and engine mass flow across Mach 0.0–0.8 and altitudes 0–8,000 m.

ALTITUDE 0 m

Parameter	Unit	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
Net Thrust	kN	0.807783322	0.7684606	0.744323636	0.734123966	0.736858953	0.751712431	0.777989367	0.815051825	0.862294683
Specific Fuel Consumption	kg/(dN*h)	1.5644646	1.652509455	1.730946579	1.797326968	1.85039292	1.890268115	1.918325108	1.937187845	1.949506403
Burner Fuel Flow	kg/min	2.106247353	2.116480679	2.147307419	2.199101337	2.272464315	2.368230066	2.487394228	2.631514149	2.801748343
Engine Mass Flow W2	kg/s	1.392999499	1.401372938	1.426694287	1.469570648	1.531027162	1.612541323	1.716058846	1.843996203	1.999393374

ALTITUDE 1,000 m

Parameter	Unit	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
Net Thrust	kN	0.73580369	0.701049522	0.680022985	0.671626595	0.674990793	0.689409953	0.714291348	0.749109667	0.793347204
Specific Fuel Consumption	kg/(dN*h)	1.560756484	1.646158685	1.721995031	1.785959882	1.836906242	1.875018091	1.901688539	1.919176954	1.930588441
Burner Fuel Flow	kg/min	1.914017301	1.923397931	1.951660334	1.999163592	2.066491336	2.15442689	2.263932784	2.396123346	2.552711568
Engine Mass Flow W2	kg/s	1.24975695	1.257269835	1.279988875	1.318458813	1.373599498	1.446723802	1.53957302	1.654357753	1.793735374

FlySpark

ALTITUDE 2,000 m

Parameter	Unit	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
Net Thrust	kN	0.668247154	0.637620407	0.619369565	0.612535963	0.616362915	0.630242093	0.653683086	0.686243699	0.727503509
Specific Fuel Consumption	kg/(dN*h)	1.557462738	1.640338483	1.713699144	1.775362711	1.824297779	1.860766376	1.886140567	1.902645171	1.912918458
Burner Fuel Flow	kg/min	1.734616737	1.743188819	1.769021823	1.812455847	1.874049161	1.954555493	2.054896979	2.176130432	2.319424817
Engine Mass Flow W2	kg/s	1.11840678	1.125130494	1.145463085	1.179892107	1.229240841	1.29468433	1.377771833	1.480466623	1.60519346

ALTITUDE 3,000 m

Parameter	Unit	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
Net Thrust	kN	0.60503608	0.578129345	0.562349555	0.556858533	0.561001033	0.574263241	0.596228443	0.626542838	0.664866896
Specific Fuel Consumption	kg/(dN*h)	1.554543949	1.634999207	1.705991582	1.765467636	1.812501252	1.847400824	1.871570602	1.887170414	1.896759175
Burner Fuel Flow	kg/min	1.567591961	1.575401703	1.598939344	1.638526198	1.694691791	1.768157307	1.859806045	1.970655177	2.101820643
Engine Mass Flow W2	kg/s	0.998207972	1.004209458	1.022358031	1.053088903	1.097136972	1.155551135	1.229714331	1.321369302	1.432665482

FlySpark

ALTITUDE 4,000 m

Parameter	Unit	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
Net Thrust	kN	0.546056548	0.522494673	0.508909252	0.504570331	0.508910247	0.521487717	0.541968055	0.570062819	0.605509543
Specific Fuel Consumption	kg/(dN*h)	1.551995537	1.630127388	1.698849527	1.756228679	1.801442088	1.834867597	1.857889339	1.872643156	1.881599844
Burner Fuel Flow	kg/min	1.412462209	1.419554795	1.440933738	1.476901475	1.527953895	1.594768189	1.678194452	1.77920706	1.898877768
Engine Mass Flow W2	kg/s	0.888449618	0.893791556	0.909945656	0.937299326	0.976506745	1.028501602	1.09451494	1.176098089	1.275150683

ALTITUDE 5,000 m

Parameter	Unit	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
Net Thrust	kN	0.491196323	0.470632944	0.458987231	0.455625025	0.460058471	0.471917125	0.49091606	0.516835689	0.549476187
Specific Fuel Consumption	kg/(dN*h)	1.549788725	1.625687693	1.69223431	1.747610971	1.791087269	1.823084122	1.845020656	1.858972232	1.867349925
Burner Fuel Flow	kg/min	1.268750872	1.275170307	1.294523233	1.327092154	1.373341451	1.433907695	1.509583786	1.601305325	1.710107195
Engine Mass Flow W2	kg/s	0.788450376	0.793191362	0.807528182	0.831804684	0.866601492	0.912747315	0.971334784	1.043740805	1.131651434

FlySpark

ALTITUDE 6,000 m

Parameter	Unit	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
Net Thrust	kN	0.440326669	0.422442942	0.412506254	0.409966286	0.414405577	0.425513896	0.443059787	0.46686636	0.496790372
Specific Fuel Consumption	kg/(dN*h)	1.547904073	1.621656728	1.686113088	1.739570012	1.78138321	1.812019112	1.832899095	1.846082773	1.853908235
Burner Fuel Flow	kg/min	1.135972408	1.141762398	1.159220323	1.188608429	1.230358563	1.285065522	1.353473138	1.436456575	1.535006268
Engine Mass Flow W2	kg/s	0.697557929	0.701752648	0.714437553	0.735916895	0.76670443	0.807533431	0.859370701	0.923434582	1.001216969

ALTITUDE 7,000 m

Parameter	Unit	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
Net Thrust	kN	0.393314176	0.377819381	0.369379758	0.367522985	0.3718941	0.382235755	0.398360057	0.42013259	0.44744632
Specific Fuel Consumption	kg/(dN*h)	1.546664105	1.618326303	1.680691526	1.732145578	1.772283092	1.801613308	1.821480317	1.833911697	1.841204267
Burner Fuel Flow	kg/min	1.013874863	1.019058404	1.034689048	1.061005522	1.098502708	1.14773504	1.209341672	1.284143451	1.373066788
Engine Mass Flow W2	kg/s	0.61514844	0.618847835	0.63003488	0.648977914	0.67613006	0.712138046	0.757854573	0.814354194	0.882952734

FlySpark

ALTITUDE 8,000 m

Parameter	Unit	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
Net Thrust	kN	0.350005142	0.336632868	0.329503447	0.328210976	0.33245534	0.342021566	0.356766276	0.376586937	0.401411773
Specific Fuel Consumption	kg/(dN*h)	1.5457783	1.615455965	1.675901476	1.725600967	1.76405914	1.79183563	1.810709495	1.822413843	1.829176349
Burner Fuel Flow	kg/min	0.901717255	0.90635929	0.920358855	0.943935296	0.977451469	1.021410715	1.076666806	1.143828746	1.223754868
Engine Mass Flow W2	kg/s	0.540626001	0.543877443	0.553709873	0.570359154	0.594223565	0.625871565	0.666052652	0.715711332	0.776004184

FlySpark