

Dump 6 pmp	31 min	27 min	23 min	19 min	15 min	10 min	6 min	2 min	2 min	6 min	10 min	-	-	-	-	-	-	2.4T / min	6 pmp Dump											
Time 4 pmp	48 min	42 min	35 min	29 min	22 min	16 min	10 min	3 min	M LW 3min	10 min	16 min	22 min	29 min	35 min	42 min	48 min	54 min	1.6T / min	4 pmp Time											
2Eng Max	Nett Perf MCT	<ISA+10° +15° +20°	FL05	FL23	FL40	FL57	FL75	FL97	FL109	FL127	FL144	FL161	FL179	FL196	FL213	FL230	Nett Perf	Add FL30 for Gross	2Eng Max											
3Eng Max	<ISA+10° +15° +20°	FL196 168 127	FL210 185 148	FL222 202 168	FL236 220 188	FL250 234 207	FL262 249 226	FL274 262 242	FL286 275 258	FL298 288 272	FL310 301 287	FL322 313 301	FL333 325 314	FL345 337 327	FL357 349 339	FL369 361 351	3 Eng LRC	Add FL10 for DDwn	3Eng Max											
Weight	340.0	330.0	320.0	310.0	300.0	290.0	280.0	270.0	260.0	250.0	240.0	230.0	220.0	210.0	200.0	190.0	180.0	170.0	Tonnes											
Flap 10	169/175	165/172	161/169	157/166	154/163	150/159	146/156	142/153	139/149	135/146	131/144	127/142	124/139	124/136	124/135	124/135	124/135	Flap 10	VR/V2											
Flap 20	163/168	159/165	155/162	151/159	148/155	144/153	140/149	136/146	132/143	129/140	125/137	124/135	124/133	124/132	124/132	124/132	124/132	Flap 20	VR/V2											
Climb	332 297	328 286	325 277	322 270	319 264	316 258	312 252	309 247	305 242	300 237	297 233	291 228	287 224	283 221	278 218	273 215	Climb:	Normal	Max Gradient											
Vmd	299	295	291	286	282	277	272	267	263	257	253	248	243	237	232	227	Vmd & Max	Rate Climb Speed												
4 Abs Max	<ISA+10° +15° +20°	FL326 318 304	FL335 328 314	FL344 337 324	FL352 346 335	FL359 354 346	FL367 362 355	FL374 370 364	FL382 378 372	FL390 385 380	FL398 393 388	FL407 402 396	FL416 411 405	FL424 420 413	Climb at LRC	Absolute Max Ceiling Only use if sole option & in ideal wx conditions	100 fpm Ceiling	4 Abs Max												
4 Norm Max	<ISA+10° +15° +20°	FL318 303 286	FL325 312 293	FL332 322 308	FL341 332 320	FL349 342 330	FL357 351 341	FL364 359 351	FL372 367 360	FL380 375 369	FL388 383 378	FL397 392 386	FL406 401 395	FL415 410 403	FL423 418 413	Normal Max Ceiling app 300 fpm climb rate	300 fpm Ceiling	4 Norm Max												
4 Eng Opt	Optimum	FL308	FL313	FL320	FL325	FL332	FL338	FL345	FL352	FL360	FL368	FL377	FL385	FL395	FL405	FL414	FL420	Optimum	4Eng Opt											
FL425	200.0 Step FL40 Opt 185.0	Severe Turbulence 1.8g Buffet Limit		Air Hong Kong B747-132SF JT9D-7A 2 Packs On										.847/241 1.42 212	Abs Max 100 fpm	NormMax 300 fpm	FL425 ISA -57°C													
FL410	212.0 Step FL40 Opt 196.0	220.0 1.8g Buffet	1.3g Buffet	Long Range Cruise										.848/253 1.48 230	.847/253 1.43 222	.845/252 1.39 218	.842/251 1.34 207	+10° 226.0 +15° 221.0 +20° 214.0	+10° 215.0 +15° 210.0 +20° 204.0	FL410 ISA -57°C										
FL390	232.0 Step FL40 Opt 216.0	241.0 1.8g Buffet	Never Limiting											Mach/IAS EPR 1.3g Buf 1.47 238	.847/265 1.42 231	.845/264 1.39 224	.843/263 1.35 218	.838/262 1.31 213	.832/260 1.28 207	+10° 230.0 +15° 224.0 +20° 217.0	+10° 230.0 +15° 223.0 +20° 216.0	FL390 ISA -57°C								
FL370	256.0 Step FL40 Opt 238.0	267.0 1.8g Buffet												.847/277 1.49 257	.848/277 1.45 247	.847/277 1.41 240	.845/276 1.38 233	.842/276 1.34 227	.838/274 1.31 221	.833/272 1.28 215	.826/270 1.25 210	.817/267 1.22 204	+10° 276.0 +15° 270.0 +20° 263.0	+10° 262.0 +15° 256.0 +20° 248.0	FL370 ISA -57°C					
FL350	285.0 Step FL40 Opt 263.0	293.0 1.8g Buffet												.848/290 1.46 262	.847/290 1.43 255	.846/290 1.40 249	.844/289 1.36 243	.841/288 1.33 236	.837/287 1.30 230	.832/285 1.28 224	.826/283 1.25 218	.818/280 1.23 213	.809/277 1.20 208	.799/273 1.19 201	+10° 302.0 +15° 295.0 +20° 286.0	+10° 289.0 +15° 282.0 +20° 271.0	FL350 ISA -55°C			
FL330	314.0 Step FL40 Opt 292.0	324.0 1.8g Buffet												.848/304 1.47 275	.847/304 1.43 268	.846/303 1.41 262	.845/303 1.38 256	.843/302 1.35 250	.840/301 1.32 245	.836/299 1.30 239	.831/298 1.27 233	.825/295 1.25 227	.818/293 1.22 222	.809/290 1.21 216	.800/286 1.19 210	.789/282 1.17 206	.777/277 1.15 200	+10° 326.0 +15° 317.0 +20° 304.0	+10° 314.0 +15° 303.0 +20° 290.0	FL330 ISA -51°C
FL310	341.0 Step FL40 Opt 325.0	.847/317 1.41 275	.845/316 1.38 269	.843/316 1.36 263	.841/315 1.33 258	.837/314 1.31 252	.833/312 1.28 247	.828/310 1.26 242	.823/308 1.24 237	.816/305 1.22 231	.808/302 1.20 225	.800/299 1.19 219	.790/295 1.17 214	.779/290 1.15 209	.767/286 1.13 204	.753/280 1.11 198	+10° 351.0 +15° 339.0 +20° 324.0	+10° 341.0 +15° 324.0 +20° 308.0	FL310 ISA -47°C											
FL290	.843/330 1.36 277	.841/329 1.33 271	.838/328 1.31 265	.835/326 1.29 260	.830/325 1.27 254	.826/323 1.25 250	.820/320 1.23 244	.813/318 1.21 240	.806/315 1.20 234	.798/311 1.18 229	.789/308 1.17 223	.779/303 1.15 218	.768/299 1.13 212	.756/294 1.11 208	.743/288 1.10 204	.728/282 1.08 197	.713/276 1.07 190	.696/269 1.06 185	FL290 ISA -43°C											
FL280	.840/335 1.32 275	.837/334 1.30 269	.833/333 1.28 264	.829/331 1.26 258	.824/329 1.25 253	.818/327 1.23 248	.812/324 1.21 243	.805/321 1.20 238	.797/318 1.18 233	.788/314 1.17 228	.778/310 1.15 223	.768/305 1.13 217	.756/300 1.11 212	.744/295 1.10 207	.730/289 1.08 203	.716/283 1.07 196	.700/277 1.06 190	.683/269 1.06 185	FL280 ISA -41°C											
FL270	.835/341 1.29 273	.831/339 1.27 267	.827/337 1.26 262	.822/335 1.24 257	.816/333 1.22 252	.810/330 1.21 247	.803/327 1.19 242	.795/324 1.18 237	.787/320 1.16 232	.777/316 1.15 227	.767/312 1.13 222	.756/307 1.11 217	.744/302 1.10 211	.731/296 1.09 207	.718/290 1.07 203	.703/284 1.07 196	.687/277 1.06 190	.670/270 1.05 185	FL270 ISA -39°C											
FL260	.829/345 1.27 271	.825/343 1.25 266	.820/341 1.23 261	.814/339 1.22 256	.808/336 1.20 251	.801/333 1.19 246	.794/330 1.18 241	.785/326 1.16 236	.776/322 1.15 231	.766/318 1.13 226	.756/313 1.11 221	.744/308 1.10 216	.732/303 1.09 211	.719/297 1.08 206	.705/291 1.07 202	.690/284 1.06 195	.674/277 1.05 189	.657/270 1.04 185	FL260 ISA -37°C											
FL250	.823/350 1.24 270	.818/347 1.22 265	.812/345 1.21 260	.806/342 1.20 255	.799/339 1.19 250	.792/336 1.17 245	.783/332 1.16 240	.775/328 1.14 235	.765/324 1.13 230	.755/319 1.11 226	.744/314 1.10 221	.732/309 1.09 216	.720/303 1.08 210	.706/297 1.07 206	.692/291 1.06 202	.677/284 1.05 195	.661/277 1.04 189	Copyright HPKD	FL250 ISA -35°C											
FL150	.724/372 1.08 259	.716/368 1.07 255	.707/363 1.07 250	.698/358 1.06 246	.688/353 1.06 242	.676/347 1.05 238	.668/342 1.05 234	.657/336 1.04 231	.646/330 1.04 226	.634/324 1.03 221	.622/318 1.03 217	.610/311 1.03 213	.597/304 1.02 209	.584/297 1.02 204	.570/290 1.02 200	.556/283 1.01 189	.541/275 1.01 187	74-132C3 hp310 960529	FL150 ISA -15°C											
Weight	340.0	330.0	320.0	310.0	300.0	290.0	280.0	270.0	260.0	250.0	240.0	230.0	220.0	210.0	200.0	190.0	180.0	170.0	Tonnes											
Vref	175/(172)	172/(168)	169/(164)	166/(161)	163/(157)	160/(153)	157/(150)	154/(146)	150/143	147/140	143/137	140/134	136/130	133/127	129/124	126/121	122/118	119/115	Flap 25/30											
Auto Brake	Distance from Touchdown in Still Air at Vref + 5 Wet or Dry Runway					Minimum Braking:			2450m	2300m	2200m	2100m	2000m	1900m	1800m	1700m	1650m	1550m	Minimum	Auto										
						Medium Braking:			1750m	1650m	1600m	1500m	1450m	1400m	1300m	1250m	1200m	1100m	Medium	Brake										
Descent	Normal (Gradient 330 ft/nmile)			Econ (Gradient 300 ft/nmile)			<i>Still Air</i>		315 280	310 275	305 270	295 265	290 260	285 255	278 250	265 245	260 240	255 235	250 230	Descent										