

Engine Air Consumption & HP Rating Guide



The data on engines in this section is to be used as a reference only. If you are selecting a new air cleaner for an engine, Donaldson recommends that you acquire this information from the engine manufacturer. If this information is not available, we calculate the airflow based on instructions shown in the first section of this catalog.



DO NOT use this guide or data for the selection of retrofit emissions devices.

- | | | |
|--------------------|----------------------|------------|
| Allis Chalmers | Kohler | Renault |
| Case | Kubota | Same |
| Caterpillar | Lister | Teledyne |
| Continental Motors | Lombardini | Volkswagon |
| Cummins | Mack | Volvo |
| Detroit Diesel | Mercedes-Benz | Waukesha |
| Deutz | Mitsubishi | White Eng |
| Ford | MTU of North America | Yanmar |
| Hatz Diesel | Navistar | |
| Hino | Nissan | |
| Isuzu | Perkins | |
| Iveco | | |
| John Deere | | |

For assistance in calculating engine airflow, please contact Donaldson customer service. See back cover for contact information.



Engine Model	RPM	HP	-- Exhaust --	
			Intake Temp. (°F)	Flow (CFM)
ALLIS CHALMERS				
10000	2200	145	265	
11000	2200	220	560	
16000	2100	250	420	
17000 MKII	2100	300	780	
2000	2100	59	97	
21000 MKII	2100	375	875	
213	3600	32	75	
2200	2100	55	97	
25000 MKII	2100	450	1050	
2800	2600	85	200	
2900	2600	135	340	
320	3600	53	114	
3400	2400	125	240	
3500	2400	175	380	
3700	2400	200	400	
426	3600	72	150	
433I	2400	100	247	
433T	2400	90	242	
6000	2200	104	218	
61000	2100	800	2300	
6138I	2100	450	1060	
6138LT	2100	325	790	
6138T	2100	375	875	
649I	2600	155	430	
649T	2600	135	390	
65000	2100	900	2400	
670I	2400	200	490	
670T	2400	175	460	
685I	2200	266	680	
685T	2200	220	555	
7000	2200	160	300	
D175	2200	52	85	
D262	2200	78	128	
D344	1800	88	143	

CASE					
301BD	2200	94	153	1000	414
336BD	2200	104	171	1000	462
336BDT	2200	126	267	850	648
451BD	2200	142	360	1000	973
451BDT	2200	181	380	900	957
504BD	2200	155	275	950	718
504BDT	2200	221	440	900	1108
504BDTI	2200	256	600	950	1567
A267D	2000	73	123	1000	333
A284	2000		136	1000	368
A377	1800		139	1000	376
A451D	2000	145	200	1000	541
G188	2000	49	82	1000	222
G188D	2250	62	138	1000	373

CATERPILLAR					
1160	2800	225	410	1050	1146
1673T	2200	250	600	950	1567
1674TA	2200	270	690	900	1738
1693TA	2100		1080	900	2720
3116	2600	200	618	856	1511
	2600	250	713	867	1755
	2450	275	685	929	1773
	2600	300	745	984	2006

Engine Model	RPM	HP	-- Exhaust --		
			Intake Temp. (°F)	Flow (CFM)	
3126B	2200	175	1239	660	2640
	2300	190	1355	716	3017
	2200	210	1327	741	3031
	2200	230	593	808	1471
	2200	250	635	821	1595
	2200	275	649	867	1683
	2200	300	660	916	1778
	2400	330	709	931	1937
3140	2800		410	1000	1109
3145	2800		410	1050	1146
3150	2800		410	1000	1109
3160	2800		410	1080	1169
3176	1800	275	692	676	1458
	1800	300	738	693	1579
	1800	350	802	760	1819
	1800	365	805	808	1900
3204NA	2400	66	193	980	515
3208ATAC	up to 300		950		
3208N	2200	165	325	1076	930
3208NA	2800	210	410	1000	1109
3208T	2800	250	646	900	1627
	2200	215	591	855	1443
3208T-DIATAAC					
	2600	275	752	854	1837
	2800	300	871	874	2162
3208T-DIT	2600	250	649	976	1740
3304B	up to 165		950		
3304NA	2200	102	206	1050	576
3304T	2200	165	264	900	665
3306	1900	300	745	1019	2059
3306B	1800	285	745	825	1781
	1800	300	777	843	1887
3306NA	2200	150	325	950	849
3306T	2200	250	600	900	1511
	up to 300		850		
3306TA	2200	270	624	950	1629
3406	1900	425	1109	880	2758
3406B	1800	300	930	655	1917
	1800	330	986	705	2125
	1800	350	1016	739	2255
	1800	400	1052	753	2364
	1800	425	1077	806	2532
	1900	460	1108	847	2694
3406E	1800	355	967	762	2301
	1800	375	1023	899	2717
	1800	435	1066	901	2872
	1800	455	1083	919	2925
	1800	475	1105	937	3017
	1800	500	1119	954	3098
	1800	575	1164	959	3236
	1800	600	1164	959	3236
3406T	2100	339	910	900	2292
3406TA	2100	375	1000	900	2519
3408T	2100	425	980	900	2468
3408TA	2100	475	1220	900	3073
3412T	2100	650	1719	870	4234
3412TA	2100	750	2426	900	6420
3508	1800	1000	2490	900	6271
3512	1800	1500	3695	900	9306
3516	1800	2000	4830	900	12164
3606	1000	2475	5850	850	14192
3608	1000	3330	7235	800	16882
3612	1000	4950	11700	800	27300
3616	1000	6655	14470	800	33763
5.4-6	2000	437	1041	950	2718
5.4-8	1900	614	1477	950	3857

Engine Model	RPM	HP	-- Exhaust --		
			Intake Temp. (°F)	Flow (CFM)	
5.4V12	1900	896	1936	900	4876
5.75-6	1330	317	780	950	2037
6.25-6	1375	440	1111	950	2901
C-10	1800	305	755	821	1888
	1800	335	766	918	2078
	1800	350	752	892	1997
	1800	370	766	918	2078
C-12	1800	335	805	876	2110
	1800	355	815	859	2121
	1800	380	826	898	2202
	1800	395	833	924	2265
	1800	410	836	937	2287
	1800	425	815	922	2220
	1800	430	826	948	2276
	1800	455	819	953	2269
C-15	1800	355	963	762	2294
	1800	375	1023	899	2714
	1800	435	1066	902	2830
	1800	455	1083	919	2925
	1800	475	1105	937	3017
	1800	500	1119	954	3098
C-16	1800	575	1154	941	3165
	1800	600	1164	959	3236
D330NA	2200	100	227	1050	635
D330T	2200	165	418	950	1091
D333NA	2200	150	349	1000	944
D333T	2200	250	613	900	1544
D334TA	2200	280	689	950	1799
D336TA	2200	350	895	950	2337
D342NA	1300	200	418	1050	1169
D342T	1300	300	887	950	2316
D343T	2000	315	786	950	2052
D343TA	2000	425	996	900	2508
D346TA	2000	565	1350	900	3400
D348TA	2000	850	2048	900	5158
D349TA	2000	1130	2827	900	7120
D353TA	1300	490	1091	900	2748
D379TA	1300	650	1501	900	3780
D398TA	1300	975	2323	900	5851
D399T	1300	1300	3009	900	7578

CONTINENTAL MOTORS					
E201	2400		104	1100	300
F124	2400		65	1100	188
F135	2000	40	58	1100	168
F140	2400		84	1100	243
F162	2400	60	84	1100	243
F186	2400		101	1100	292
F209	2400		109	1100	315
F226	2400		115	1100	332
F227	2400	78	116	1100	335
F244	2400		126	1100	364
F245	2400	88	127	1100	367
G134	2000		58	1100	168
G157	2000		68	1100	196
H227	2000		96	1100	277
H243	2000		104	1100	300
H260	2000		112	1100	324
J382	2000		160	1100	462
L478	2400	162	265	1100	766
M271	2400		141	1100	407
M290	2400		151	1100	436
M330	2400		172	1100	497
M363	2400	122	201	1100	581
N56	2200		27	1100	78
N62	2400		31	1100	90

Engine Model	RPM	HP	Intake CFM	-- Exhaust --	
				Temp. (°F)	Flow (CFM)
CONTINENTAL MOTORS CONTINUED					
R513	2400	267	1100	771	
R572	2400	298	1100	861	
R602	2400	191	313	1100	904
S749	2200	358	1100	1034	
S802	2200	392	1100	1132	
S820	2400	250	455	1100	1314
T&B371	2400	193	1100	558	
T&B427	2400	133	241	1100	696
U501	2400	260	1100	751	
V603	2800	313	1100	904	
Y112	2400	37	58	1100	168
Y69	2400	37	1100	107	
Y91	2400	27	91	1100	263

CUMMINS					
Engine Model	RPM	HP	Intake CFM	-- Exhaust --	
				Temp. (°F)	Flow (CFM)
3B2.9	2500	56	115	1000	311
4B3.9	2500	76	150	1050	419
4BT	2500	105	289	890	750
4BT	2500	120	336	970	922
4BT3.9	2500	100	253	1000	684
4BT3.9-G1	1800	86	147	850	357
4BT3.9-G2	1800	102	157	850	381
4BTA3.9	2500	120	298	900	751
6B5.9	2500	116	226	1000	611
6BT	2500	190	590	780	1290
	2500	230	535	1031	1531
	2300	230	520	910	1380
6BT5.9	2500	152	381	900	960
6BT5.9-G1	1800	135	224	900	564
6BT5.9-G2	1800	166	285	900	718
6BTA5.9	2500	180	449	900	1131
6C8.3	2500	316	1000	854	
6CT	2300	250	570	930	1740
	2200	300	742	1000	2140
	2000	275	590	985	1665
6CT8.3	2500	555	900	1398	
6CTA8.3	2500	250	632	900	1592
C-160	2500	153	300	900	756
C-180	2500	173	350	900	881
C-190	2500	190	495	900	1247
FLEET 270	1600	270	710	900	1788
FLEET 300	1600	300	765	900	1927
	1600	300	710	900	1788
Formula 240	1800	240	630	900	1587
	1800	240	618	900	1556
Formula 270	1800	270	720	900	1813
Formula 300	1800	300	761	900	1917
	1800	300	745	900	1876
	1800	300	744	900	1874
Formula 315	1800	315	735	900	1851
Formula 350	1800	350	821	900	2068
	1800	350	800	900	2015
	1800	350	857	900	2158
Formula 400	1900	400	1060	900	2670
	1900	400	930	950	2428
	1900	400	986	900	2483
Formula 450	1900	450	1110	950	2898
Formula L10-240					
	1900	240	522	900	1315
	1900	240	580	900	1461
	1900	240	585	900	1473

Engine Model	RPM	HP	Intake CFM	-- Exhaust --	
				Temp. (°F)	Flow (CFM)
Formula L10-270					
	1900	270	556	900	1400
	1900	270	618	900	1556
	1900	270	606	900	1526
Formula L10-300					
	1900	300	609	900	1534
GNH-220-IP	1800	177	250	900	630
GNH-250-IP	1800	204	265	900	667
GV-12-525-IP	1800	408	580	900	1461
ISB	2500	185	578	698	1257
	2600	190	526	801	1250
	2500	205	508	831	1246
	2600	210	526	857	1313
	2500	225	510	892	1311
	2500	240	610	812	1456
	2500	245	610	812	1456
	2600	260	622	886	1592
	2500	275	620	956	1673
ISC	2400	225	708	706	1417
	2400	240	721	746	1485
	2400	260	743	765	1578
	2200	285	682	833	1531
	2200	300	688	860	1578
	2200	315	682	919	1686
	2200	330	693	927	1758
	2200	350	706	966	1841
ISL	2100	310	689	891	1682
	2100	330	708	933	1740
ISM	2100	280	777	670	1523
	1800	310	734	721	1528
	1800	330	773	742	1610
	2100	350	888	720	1778
	2100	370	918	737	1853
	2100	400	918	737	1853
	2100	425	855	969	2171
	2100	450	974	789	2030
	2100	500	940	965	2341
ISX	1800	400	1063	655	2036
	1800	450	1129	696	2218
	2000	475	1126	842	2504
	2000	500	1125	905	2633
	2000	600	1227	975	3202
KT-1150-C	2100	450	1130	900	2846
KT-2300-C	2100	900	2400	880	5956
KT-450	2100	450	1130	850	2741
KTA-1150-C	2100	600	1400	900	3526
	2100	525	1410	880	3499
KTA-2300-C	2100	1200	2900	900	7304
	2100	1050	2700	900	6800
KTA-3067-C	2100	1600	3760	900	9470
	2100	1350	3455	900	8701
KTA-525	2100	525	1425	850	3457
KTA-525-FORM					
	1900	525	1200	850	2911
KTA-600	2100	600	1400	850	3396
KTTA-19-C		650		900	
KTTA-38-C		1350		900	
KTTA-50-C		2000		900	
L10	1700	260	615	745	1300
	1700	280	640	760	1407
	1600	310	638	825	1470
	2100	270	670	900	1687
	2100	300	659	900	1660

Engine Model	RPM	HP	Intake CFM	-- Exhaust --	
				Temp. (°F)	Flow (CFM)
M11	1600	280	615	817	1476
	1600	310	670	813	1390
	1600	350	760	822	1554
	1600	370	770	828	1641
	1600	400	840	832	1801
N-855-C	2100	220	460	850	1116
	2100	235	460	850	1116
N-927	1950	240	465	880	1154
	2100	260	495	880	1228
	2100	240	495	880	1228
N14	1800	330	1014	657	1997
	1800	400	1126	723	2354
	2100	350	1212	606	2254
	2100	370	1283	651	2474
	2100	460	1329	737	2737
	2100	500	1380	802	2984
	2100	525	1380	802	2984
	2100	410	1164	670	2614
	2100	435	1302	714	2639
	2100	550	1380	802	2984
	2100	525	1380	802	2984
NH-220	2100	212	470	900	1184
NH-230	2100	220	460	900	1159
NH-230S	1800	186	460	900	1159
NH-250-M	2100	240	460	950	1201
	1800	190	395	1050	1105
	1800	200	395	900	995
	2100	210	460	900	1159
NHC-250	2100	240	460	900	1159
	2300	240	710	900	1788
NHC-250-D	2100	240	460	900	1159
NHD-230	2100	220	495	900	1247
NHF-240	2300	230	505	900	1272
NHF-265	2300	255	505	900	1272
NHH-250	2100	240	460	900	1159
NHHTC-335	2100	335	850	850	2062
NHTF-295	2300	295	710	900	1788
NT-335-M	1800	235	625	950	1632
	1800	265	650	900	1637
	2100	285	775	950	2024
	2100	335	800	950	2089
NT-380-M	2300	380	950	950	2481
	2000	253	700	1000	1893
	2000	300	750	900	1889
	2300	320	900	980	2400
NT-855-C	2100	310	895	880	2221
	2100	280	860	850	2086
	2100	250	825	850	2001
	2100	335	920	900	2317
	2100	335	900	900	2267
	2100	280	820	900	2065
	2100	250	680	880	1687
	2100	310	835	900	2103
NTA-370	1950	335	810	850	1965
	2100	370	950	850	2305
NTA-400	2100	400	1000	850	2426
NTA-420	2300	420	1080	900	2720
NTA-855-C	2100	400	1000	880	2481
	2100	360	960	880	2382
	2100	360	980	900	2468
	2100	400	1050	900	2644
NTC-270-CT	2100	240	740	850	1795
	2100	225	760	900	1914
	2100	270	825	900	2078

Engine Model	RPM	HP	Intake CFM	-- Exhaust --	
				Temp. (°F)	Flow (CFM)
WD1-450.....	3400	10	26		22
WD1-660.....	3000	15	38		32
WD1-670.....	3000	16	40		34
WD1-750.....	3000	17	43		37
WD2-1000.....	3000	21	52		44
WD2-860.....	3000	19	48		41
WI-145.....	4000	4	8		7
WI-145V.....	3600	4	8		7
WI-185.....	3600	5	10		9
WI-185V.....	3600	5	10		9
WI-340.....	3600	9	20		17
WI-390.....	3600	11	22		19
WI-588.....	3600	16	34		29

VOLKSWAGON

026.2.....	2200	70	140	1150	417
068.5.....	4000	48	90	900	227
068.A.....	4000	60	120	900	302
075.1.....	4000	75	145	900	365
126A.....	2000	45	90	1150	268

VOLVO

D45BPP.....	2300	75	195	900	491
TD100G.....	2000	223	460	900	1159
TD100GPP.....	2000	223	460	900	1159
TD120HP.....	2000	286	575	900	1448
TD121G.....	2000	284	575	900	1448
TD45B.....	2200	90	235	900	592
TD61A.....	2500	154	330	900	831
TD61AP.....	2500	165	350	900	881
TD61AW.....	2500	162	350	900	881
TD71A.....	2200	189	360	900	907
TD71AP.....	2200	192	360	900	907
TD71AW.....	2400	190	360	900	907
TID100KPP.....	2000	249	515	900	1297
TID121KP.....	2000	343	695	900	1750
TID121LP.....	1800	401	800	900	2015
TID71A.....	2200	216	380	900	957
TID71AP.....	2200	209	400	900	1007

WAUKESHA

190DLC.....	2800	84	128		109
197DLC.....	2800	91	208		177

Engine Model	RPM	HP	Intake CFM	-- Exhaust --	
				Temp. (°F)	Flow (CFM)
197DLC.....	2800	131	320		273
D317D.....	2400	118	285		243
D317DS.....	2400	142	340		290
F1197D.....	1800	258	620		528
F1197DS.....	1800	400	960		818
F1197DSI.....	2400	462	1100		937
F1905DS.....	1200	397	860		733
F1905DSI.....	2200	514	1015		865
F2896D.....	1200	415	804		685
F2896DS.....	1200	695	1032		879
F2896DSI.....	1200	877	1305		1112
F475D.....	2400	182	440		375
F475DS.....	2400	216	520		443
F674D.....	2200	226	540		460
F674DS.....	2200	229	550		469
H1077D.....	2400	346	630		537
H1077DS.....	2400	522	1080		920
H1077DSI.....	2400	557	1190		1014
H866DS.....	2300	384	920		784
L1616D.....	2400	520	940		801
L1616DS.....	2400	785	1680		1431
L1616DSI.....	2400	836	1850		1576
L5100D.....	1200	830	1420		1210
L5100DS.....	1200	1232	2170		1849
L5100DSI.....	1200	1375	2560		2181
L5790D.....	1200	905	1710		1457
L5790DS.....	1200	1235	2600		2215
L5790DSI.....	1200	1754	3080		2624
LRDCS.....	1200	695	1032		879
NKDC.....	1200	297	566		482
NKDCS.....	1200	390	860		733
P2154D.....	2200	592	1420		1210
P2154DS.....	2200	1017	2450		2087
P2154DSI.....	2200	1077	2600		2215
VLRD.....	1200	905	1710		1457
VLRDS.....	1200	1235	2600		2215
VRD232.....	2200	68	160		136
VRD283.....	2200	76	180		153
VRD310.....	2400	106	255		217
WAKD.....	1800	258	530		451
WAKDS.....	1800	400	810		690

WHITE ENG

D-2000.....	2600	70	120		102
D-2300.....	2400		137		117

Engine Model	RPM	HP	Intake CFM	-- Exhaust --	
				Temp. (°F)	Flow (CFM)
D-2300T.....	2400		211		180
D-3000.....	2800	110	193		164
D-3000T.....	2600	130	280		239
D-3300T.....	1800		175		149
D-3400.....	2400		210		179
D-3400T.....	2400		333		284
D-4800.....	2400		260		221
D-4800T.....	2400		400		341
D-4800TA.....	2400		400		341
D-4800TAH.....	1800		431		367
G-1600.....	2400		102		87
G-2000.....	2800	84	120		102
G-2300.....	2400		130		111
G-3000.....	2800	130	181		154
G-3400.....	2400		210		179

YANMAR

12LAAL-DT.....	1800	1060	2772	900	6981
3T95LE.....	2800	51	114	900	287
4HAL.....	1800	110	260	900	655
4T95LE.....	2800	68	150	900	378
4T95LTE.....	2800	85	208	900	524
6HAL.....	1800	165	390	900	982
6HAL-DT.....	1800	330	837	900	2108
6HAL-HT.....	1800	264	692	900	1743
6HAL-T.....	1800	209	512	900	1289
6LAAL-DT.....	1800	530	1370	900	3450
6T95LE.....	2800	102	233	900	587
6T95LTE.....	2800	128	314	900	791
8LAAL-DT.....	1800	705	1800	900	4533

