Perkins®

Generating a better future

The Power to generate... from Perkins

In today's power generation market Perkins leads the way. Through our commitment to continuous improvement and global partnerships, Perkins has formed a worldwide Class A accredited operation. An operation dedicated to meeting the challenges of the power generation industry, now and in the future.

Perkins means diesel and gas power to people in countries all around the world. Globally Perkins specialist engine solutions are trusted by more than 1000 leading original equipment manufacturers, including the foremost OEMs in the power generation industry.

Since 1932 Perkins has produced 15 million engines with nearly half still in service today. With manufacturing facilities in 13 countries and a worldwide network of over 4000 distribution outlets and service centres, Perkins is truly international.

Perkins product line stretches from 9 to 2263 kVA (7 to 1811 kWe) and thrives on the toughest tasks man demands of engines

Perkins produces more than 45,000 diesel and gas engines specifically for electrical power generation

Perkins means diesel and gas power to people in countries all around the world

Producing over 300,000 engines every year Perkins has unrivalled experience in delivering total customer satisfaction worldwide. By concentrating on the production of engines rather than complete machines, Perkins has developed the largest range of power solutions to meet the demands of a swiftly moving market.

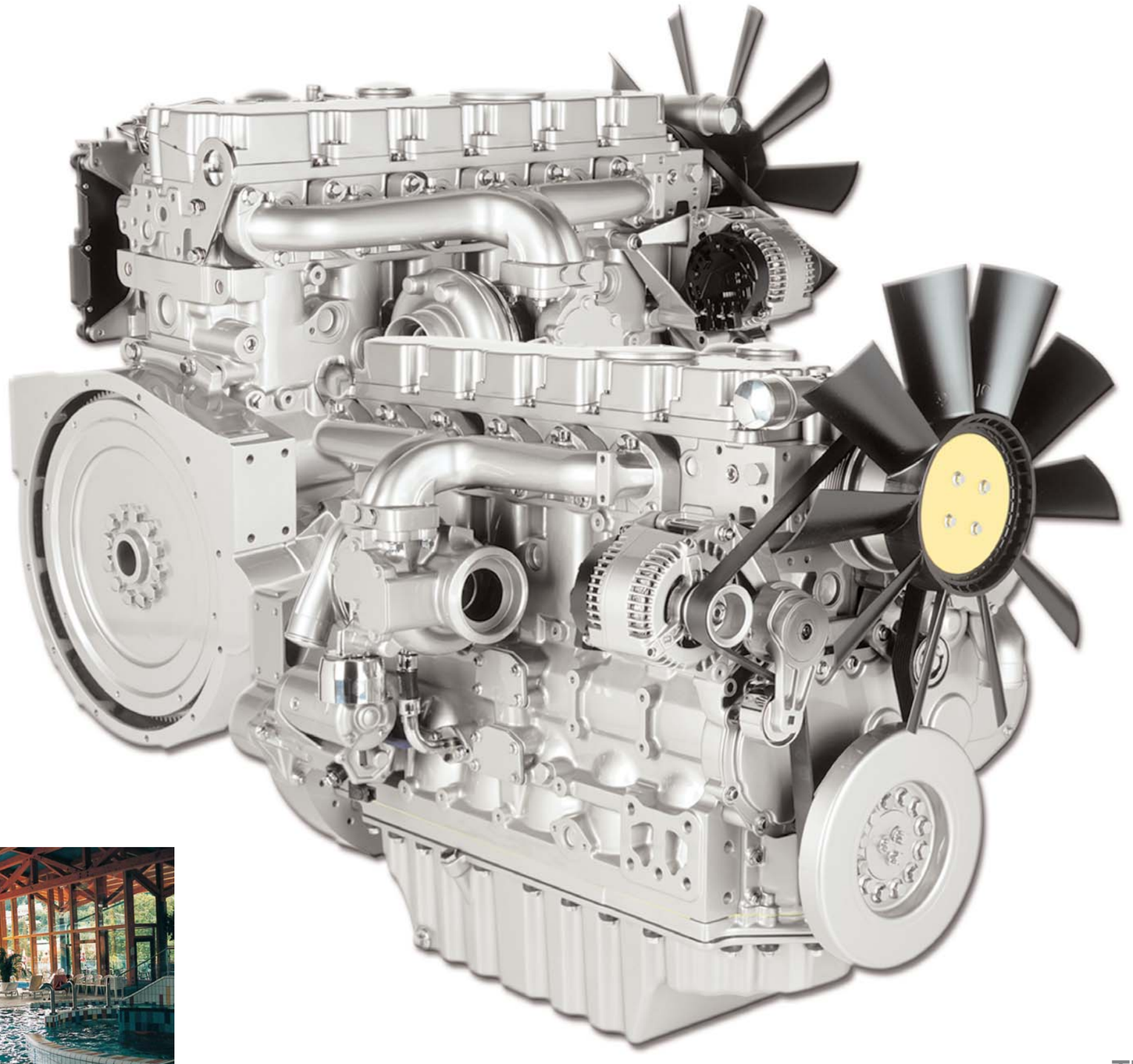
For gen set applications Perkins has a comprehensive range of ElectropaK™ specifications complete and ready to run. Where combined heat and power (CHP) is needed, Perkins has a dedicated range of engines offering maximum fuel efficiency and minimal running costs. Every year Perkins produces more than 45,000 diesel and gas engines specifically for electrical power generation.

Power solutions for the power generation industry

From frozen wastelands to arid deserts, people rely on Perkins every day. Partners to the industry for over 70 years, Perkins reputation for reliability and quality spans the globe.

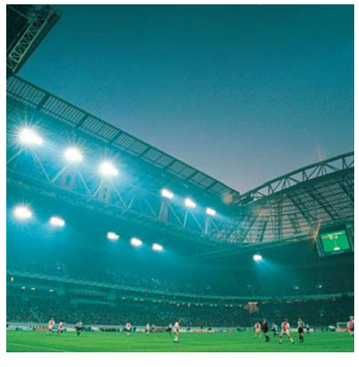
People who depend on power place their trust in Perkins. In the world's leading financial centres, Perkins powered gen sets provide emergency standby power; in the heights of the Bavarian Alps they're a source of baseload power. For some, Perkins expertise brings affordable electricity to places national networks don't reach. For others, Perkins engines provide a cost effective alternative to the main power network. Whatever the application, from lighting construction sites to running welding sets or heating and powering hotels, Perkins has the solution.

As one of the world's largest suppliers of diesel and gas engines for power generation, Perkins understands the demands of the industry and is committed to exceeding them.



Perkins comprehensive product range offers cost effective power with minimised running costs and rapid payback periods. It also offers choice and flexibility, with specifications ranging from bare engines, through complete ElectropaK™, to engines for combined heat and power.

Perkin's dedication to the lifelong support of its customers - delivered through a global distributor and dealer network - ensures rapid access to technical support and parts.



The power choice of over 1,000 OEMs

The complete range for all your power needs

The design features of Perkins engines ensure their suitability for all power generation applications of up to 2263 kVA in diesel power or 1008 kWe on gas.

Perkins has a comprehensive range from bare engine to complete ElectropaK specifications. For the ultimate in fuel efficiency, Perkins offers a dedicated family of engines for CHP installations.

Throughout Perkins engine range, exceptional performance, reliability, durability and longevity combine to produce minimum operating costs and rapid ‘payback’ periods.

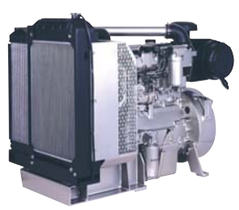
Exceptional performance, reliability, durability and longevity combine to produce minimum operating costs and rapid ‘payback’ periods

400 Series
9.1 to 36.7 kVA

- 1.1 to 2.2 litre
- In-line 3 and 4 cylinder
- Naturally aspirated

The 400 Series is a class-leading diesel range from Perkins - a significant evolution of the very successful compact engine family. Developed in conjunction with our customers, the 400 Series offers superior performance, with low emissions and low operating costs - all in a small efficient package.

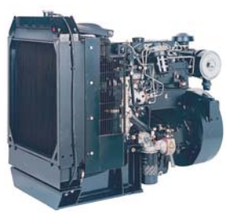
1100 Series
30 to 219 kVA



- 3.3, 4.4 and 6.6 litres
- In-line 3, 4 and 6 cylinder
- Naturally aspirated
- Turbocharged
- Turbocharged charge-cooled

1100 Series is a multi-generational product designed to provide an optimum range of power solutions for both emissions controlled and non-regulated territories.

1000 Series
93 to 173 kVA



- 6.0 litre
- In-line 6 cylinder
- Turbocharged
- Turbocharged charge-cooled

Perkins advanced combustion technology makes this family of engines highly productive and fuel efficient. In addition, class leadership on the SAE maintainability index – a widely accepted means of comparing the serviceability of engines – and service intervals of up to 500 hours further minimise operating costs.

1300 Series EDi
189 to 275 kVA

- 8.7 litre
- In-line 6 cylinder
- Turbocharged charge-cooled

The 1300 Series EDi range features ‘full authority’ electronic engine management coupled with Hydraulically actuated Electronic controlled Unit Injectors to provide quiet, clean, highly competitive power, with outstanding economy. This range also has the proven reliability of premium design features such as roller cam followers and wet liners building in low cost of ownership.

2300 Series
250 to 500 kVA

- 14 litre
- In-line 6 cylinder
- Turbocharged charge-cooled

Developed on the base of a proven industrial engine, this 14 litre turbocharged and charge cooled unit provides economic and reliable power at key modes in the industry. All engines in the family meet the requirements of EPA/EC Stage 2 emissions standards and are capable of meeting 1⁄2 TA Luft (1986) NOx levels.

2800 Series
353 to 750 kVA

- 16 and 18 litre
- In-line 6 cylinder
- Turbocharged charge-cooled

A well proven family of 6 cylinder in-line engines designed to address today’s uncompromising demands within the power generation industry, with particular focus on the standby sector. Developed from a proven heavy-duty industrial base, the 2800 Series offers superior performance and reliability in economic operation with low exhaust emissions.

4000 Series
585 to 2263 kVA

- 23 to 61 litre
- In-line 6 and 8 cylinder
- Vee 12 and 16 cylinder
- Turbocharged charge-cooled

A unique piston and cylinder design, incorporating an individually operated unit fuel injector, gives the Perkins 4000 Series ultra-low fuel consumption and emissions. The gas powered engines available in this range received the Queens Award for Environmental Achievement.

50Hz

Model	Net Engine Output			Typical Generator Efficiency	Typical Power Factor	Typical Generating Set Output					
	Baseload kWm	Prime kWm	Standby kWm	%		Baseload kWe	Baseload kVA	Prime kWe	Prime kVA	Standby kWe	Standby kVA
3000 rev/min (17.5 kVA to 36.7 kVA)											
403C-11G	*	17	18.8	82/80	0.8	*	*	14	17.5	15.1	18.9
403C-15G	*	21.2	23.4	84/82	0.8	*	*	17.9	22.4	19.2	24.1
404C-22G	*	30.7	33.9	88/86	0.8	*	*	27	33.8	29.3	36.7
1500 rev/min (9.1 kVA to 2263 kVA)											
403C-11G	*	8.5	9.4	85	0.8	*		7.3	9.1	8.0	10.0
403C-15G	*	12	13.3	88/87	0.8	*	*	10.6	13.3	11.6	14.5
404C-22G	*	18.5	20.4	88/89	0.8	*	*	16.3	20.3	18.2	22.7
1103A-33G	*	27.7	30.4	87	0.8	*	*	24	30	26.4	33
1103C-33G2#	*	27	30	90	0.8	*	*	24	30	26	33
1104C-44G1#	*	38	42	90	0.8	*	*	32	40	35	44
1103A-33TG1	*	41.3	45.6	87	0.8	*	*	36	45	39.7	49.6
1103A-33TG2	*	53.8	59.3	89	0.8	*	*	48	60	52.8	66
1104C-44TG2#	*	53	59	90	0.8	*	*	48	60	53	66
1104A-44TG1	*	58.4	64.3	89	0.8	*	*	52	65	57.2	71.5
1104A-44TG2	*	71.9	79.1	89	0.8	*	*	64	80	70.4	88
1104C-44TAG1#	*	71	78	90	0.8	*	*	64	80	70.5	88
1006TG1A	*	83	91.5	90	0.8	*	*	74.5	93	82.5	103
1104C-44TAG2#	*	89	98	90	0.8	*	*	80	100	88	110
1006TG2A	*	91	100	90	0.8	*	*	82	102.5	90	112.5
1106D-E66TAG2#	*	117.1	130.5	92	0.8	*	*	108	135	120	150
1006TAG	*	121	133	90	0.8	*	*	109	136	120	150
1006TAG2	*	129.3	143	93	0.8	*	*	120.2	150	132	165
1106D-E66TAG3#	*	129.5	143.9	93	0.8	*	*	120	150	132	165
1106D-E66TAG4#	*	156.7	173.4	93	0.8	*	*	144	180	160	200
1306C-E87TAG3^	164	180	199	92	0.8	151	189	166	208	183	229
1306C-E87TAG4^	179	198	217	92	0.8	165	205	182	228	200	250
1306C-E87TAG5	185	204	224	92	0.8	170	213	188	235	206	258
1306C-E87TAG6	198	218	239	92	0.8	182	228	200	250	220	275
2306C-E14TAG1A	217	261	304	92	0.8	200	250	240	300	280	350
2306C-E14TAG2	239	304	344	92/93	0.8	220	275	280	350	320	400
2306C-E14TAG3	261	344	387	93	0.8	240	300	320	400	360	450
2806C-E16TAG1	304	390	433	93	0.8	283	353	363	453	403	503
2806C-E16TAG2	347	433	471	93	0.8	323	403	403	503	443	553
2806-E18TAG1	396	482	556	92/93	0.8	364	455	445	556	513	641
2806-E18TAG2	444	556	611	92/93	0.8	404	505	513	641	565	706
4006-23TAG2A	495	620	685	93	0.8	468	585	584	730	685	800
4006-23TAG3A	540	679	760	94	0.8	512	640	640	800	720	900
4008TWG2	560	710	782	95	0.8	532	665	675	843	743	929
4008TAG	566	715	787	95	0.6	538	672	679	849	748	935
4008TAG1A	602	762	839	95	0.8	572	715	724	905	797	996
4008TAG2A	681	861	947	95	0.8	647	809	818	1022	900	1125
4012TWG	679	857	946	95	0.8	645	806	814	1018	899	1123
4012TWG2	825	1044	1154	96	0.8	792	989	1002	1253	1108	1385
4012TAG	841	1061	1168	96	0.8	807	1009	1019	1273	1121	1402
4012TEG †	860	1075	1182	96	0.8	826	1032	1032	1290	1135	1418
4012TAG1A	900	1136	1250	96	0.8	864	1080	1091	1364	1200	1500
4016TWG	937	1182	1301	96	0.8	900	1124	1135	1418	1249	1561
4012TAG2A	995	1254	1380	96	0.8	955	1194	1204	1505	1325	1656
4012TEG2 †	1035	1294	1423	96	0.8	994	1242	1242	1553	1366	1708
4016TWG2	1112	1406	1550	96	0.8	1068	1335	1350	1688	1488	1861
4016TEG †	1146	1432	1575	96	0.8	1100	1375	1375	1719	1512	1890
4016TAG	1160	1460	1607	96	0.8	1114	1392	1402	1752	1543	1928
4016TAG1A	1219	1537	1690	96	0.8	1170	1463	1476	1844	1622	2028
4016TEG1 †	1230	1538	1692	96	0.8	1181	1476	1476	1845	1624	2030
4016TEG2 †	1366	1708	1879	96	0.8	1311	1639	1640	2050	1804	2255
4016TAG2A	1362	1715	1886	96	0.8	1307	1634	1646	2058	1811	2263
Gas Power 1500 rev/min (307 kWe to 1008 kWe)											
4006-23TRS1 †	322	-	-	95.4	1	307	307	-	-	-	-
4006-23TRS2 †	393	-	-	95.4	1	375	375	-	-	-	-
4008-30TRS1 †	447	-	-	95	1	425	425	-	-	-	-
4008-30TRS2 †	526	-	-	95	1	500	500	-	-	-	-
4012TESI †	632	-	-	96	1	607	607	-	-	-	-
4016TESI †	842	-	-	96.8	1	815	815	-	-	-	-
4016E61TRS	1042	-	-	96.8	1	1008	1008	-	-	-	-

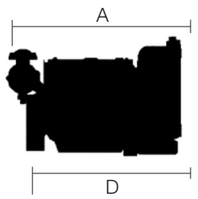
*Available on application † Gross power ^1500/1800 rev/min switchable ratings are offered for stand-alone non-load sharing gen set applications. For details please consult Perkins Engines Company Limited.
1100 Series 1500 rev/min ratings are not EPA certified.

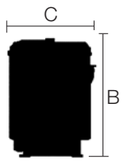
60Hz

Model	Net Engine Output			Typical Generator Efficiency	Typical Power Factor	Typical Generating Set Output					
	Baseload kWm	Prime kWm	Standby kWm	%		Baseload kWe	Baseload kVA	Prime kWe	Prime kVA	Standby kWe	Standby kVA
1800 rev/min (9.1 kWe to 1331 kWe)											
403C-11G	*	10.4	11.5	87/86	0.8	*	*	9.1	11.4	9.9	12.4
403C-15G	*	14.4	15.9	89/88	0.8	*	*	12.9	16.1	14	17.5
404C-22G	*	20.7	22.6	89	0.8	*	*	18.7	23.4	20.2	25.3
404C-22G	*	28.3	31.5	89	0.8	*	*	25	31	28	35
1103A-33G	*	32.2	35.4	87	0.8	*	*	27.9	34.9	30.6	38.2
1103C-33G1	*	30.5	34	90	0.8	*	*	27	34	30	38
1104C-44G2	*	48	53	90	0.8	*	*	41	51	45	56
1103A-33TG1	*	48.8	53.9	87	0.8	*	*	42.5	53.1	46.9	58.7
1103A-33TG2	*	61.2	67.5	89	0.8	*	*	54.5	68.1	60.1	75.1
1104C-44TG1	*	61	68	90	0.8	*	*	54	68	60	75
1104A-44TG1	*	68.6	75.5	89	0.8	*	*	60.8	76.0	66.9	83.6
1104A-44TG2	*	82	90.2	89	0.8	*	*	73	91.3	80.3	100.3
1104C-44TAG1	*	80	89	90	0.8	*	*	72	90	80	100
1006TG1A	*	96.5	106.5	90	0.8	*	*	87	109	96	120
1104C-44TAG2	*	100	112	90	0.8	*	*	90	112.5	100	125
1006TG2A	*	107	118	90	0.8	*	*	96.5	120.5	106	132.5
1006-6T	*	109.5	120	90	0.8	*	*	98.5	123	108	135
1006TAG	*	134	147	90	0.8	*	*	120.5	151	132.5	165.5
1006-6TA	*	140	154	90	0.8	*	*	126	157.5	138.5	173
1106D-E66TAG2	*	136.6	153.6	92	0.8	*	*	125	156	140	175
1106D-E66TAG3	*	146.4	163.3	93	0.8	*	*	135	169	150	188
1106D-E66TAG4	*	173.7	192.3	93	0.8	*	*	160	200	175	219
1306C-E87TAG4^	194	213	235	92	0.8	178	223	196Po	245	216	270
2306C-E14TAG1A	245	299	329	92	0.8	225	281	275	344	303	379
2306C-E14TAG2	272	348	376	92/93	0.8	250	313	320	400	350	438
2306C-E14TAG3	299	376	430	93	0.8	275	344	350	438	400	500
2806C-E16TAG1	386	489	542	93/94	0.8	359	449	460	575	509	637
2806C-E16TAG2	440	542	595	93/94	0.8	409	512	509	637	559	699
2806-E18TAG1	498	553	612	92/93	0.8	455	569	506	633	556	695
2806-E18TAG2	498	553	612	92/93	0.8	455	569	506	633	556	695
2806-E18TAG3	500	599	656	92/93	0.8	455	569	546	683	606	758
4006-23TAG2A	510	640	715	94	0.8	480	600	600	750	675	844
4008TWG2	534	684	756	95	0.8	508	635	650	812	718	898
4008TAG	564	712	784	95	0.8	536	670	676	846	745	931
4006-23TAG3A	570	715	795	94	0.8	540	675	675	844	750	938
4008TAG1	584	744	821	95	0.8	555	694	707	884	780	975
4008TAG2	659	838	924	95	0.8	626	783	796	995	878	1097
4012TWG2	679	857	946	96	0.8	781	977	992	1240	1097	1370
4012TAG1	905	1141	1255	96	0.8	869	1086	1095	1369	1205	1506
4012TAG2	1001	1260	1386	96	0.8	961	1201	1210	1512	1331	1663
1200 rev/min (466 kWe to 1478 kWe)											
4008TAG1	491	623	686	95	0.8	466	583	592	740	652	815
4008TAG2	547	693	763	95	0.8	520	650	658	823	725	906
4012TWG	536	679	750	95	0.8	509	637	645	806	713	891
4012TAG	679	854	940	96	0.8	651	814	820	1025	902	1128
4012TEG †	688	860	946	96	0.8	660	827	826	1033	908	1135
4016TWG	715	908	1002	96	0.8	687	858	872	1090	962	1202
4016TEG †	917	1146	1261	96	0.8	880	1100	1100	1375	1211	1513
4016TAG	908	1146	1263	96	0.8	872	1091	1100	1375	1212	1515
4016TAG2	1108	1400	1540	96	0.8	1063	1329	1344	1680	1478	1848
Gas Power 1200 rev/min (384 kWe to 772 kWe)											
4008TESI †	400	-	-	96	1	384	384	-	-	-	-
4012TESI †	600	-	-	96	1	576	576	-	-	-	-
4016TESI †	800	-	-	96.5	1	772	772	-	-	-	-

* Available on application † Gross power ^1500/1800 rev/min switchable ratings are offered for stand-alone non-load sharing gen set applications. For details please consult Perkins Engines Company Limited.

Technical Specifications





ElectropaK Dimensions

DIESEL Model	Length (A)	Height (B)	Width (C)	Length (D)	ElectropaK Dry Weight
403C-11	776	700	449	TBA	129
403C-15	820	791	476	TBA	197
403C-22	915	840	477	TBA	242
1103A-33G	1029	951	629	TBA	412
1103A-33TG1/TG2	1049	951	634	928	420
1104A-44TG1/TG2	1241	951	629	1046	463
1103C-33G1/G2	1045	951	643	928	TBA
1104C-44G1/G2	1162	951	652	1045	TBA
1104C-44TG1/TG2	1240	951	650	1045	TBA
1104C-44TAG1/TAG2	1259	966	721	1121	500
1006TG1A	1559	982	683	1378	542
1006TG2A/1006-6T	1559	1124	683	1378	586
1006TAG/1006-6TA	1685	1065	773	1450	586
1106D-E66TAG2/TAG3	1707.8	1144	767	1445.5	709
1106D-E66TAG4	1784	1144	777	1423.7	714
1306-E87TG1/TG2	1737	1360	856	1539	845
1306-E87TAG1/TAG6	1822	1360	856	1539	875
2306C-E14TAG1A/TAG2/TAG3	2422	1614	1107	2029	1690
2806C-E16TAG1/TAG2	2674	1722	1117	2178	1712
2806C-E18TAG1/TAG2/TAG3	2585	1766	1486	2000	1832
4006-23TAG2A/TAG3	2955	1792	1643	2342	2603
4008TAG	3780	2193	1630	3129	3730
4008TAG1/TAG2	3935	2258	1870	3281	4360
4012TWG2	3795	2444	1870	3208	5315
4012TAG	3815	2306	1870	3230	5280
4012TAG1/TAG2	3900	2749	2245	3317	5760
4016TWG2	4510	3149	2775	3872	8240
4016TAG	4460	2749	2245	3827	6900
4016TAG1/TAG2	4460	3239	2775	3827	8010

Engine Dimensions

GAS Model	Length (X)	Height (Y)	Width (Z)	Engine Dry Weight
4006-23TRS	2065	1555	1345	2420
4008TESI	2655	1565	1485	3350
4012TESI	2650	1860	1895	4680
4016TESI	3195	2118	1895	5820
4016-E61TRS	3482	2014	1415	5920

All dimensions are given in mm.
All weights are given in kg.
Data is approximate only. Perkins reserves the right to change without prior notice.

Emissions Regulations
Perkins can supply engines for power generation applications which satisfy the requirements of TA Luft, 1/2 TA Luft regulations and US EPA off-highway legislation.
Please contact your local Perkins distributor for information on specific engine ratings.

Notes:
- 2800 Series baseload ratings are still in development. Final ratings will be made available on www.perkins.com.
- Electrical output is based on typical generator efficiency and is for guidance only.
- All ratings data based on operation under ISO 8528-1, ISO 3046, DIN6271 conditions using typical fan sizes and drive ratios. Performance tolerance quoted by Perkins is ± 5%.
- **Baseload Power** = Power available for continuous full load operation. An overload of 10% permitted for one hour in every twelve hours of operation.
  Please Note: No overload is permitted on 4000 Series.
- **Prime Power** = Power available at variable load in lieu of main power network (for 4000 Series maximum engine load factor is 80%). An overload of 10% permitted for one hour in every twelve hours of operation.
- **Standby Power** = Power available at a variable load in the event of a main power network failure up to a maximum of 500 hours per year. No overload is permitted.
- Gas powered engine ratings are obtained using natural Gas – LHV (low heat value) 34.71 MJ/m3 (930Btu/ft3).
- 4000 Series availability dependent on franchise.
- TBA - To Be Announced

Worldwide after sales support

Perkins product support team aims to maximise engine user profitability and lower operating costs by increasing up time and maximising residual values for Perkins powered equipment wherever it is operating in the world.

Through an experienced network of distributors and dealers, fully trained engine experts deliver total service support around the clock, 365 days a year. 4,000 service points around the world have a comprehensive suite of web based tools covering technical information, parts identification and ordering systems, all dedicated to maximising the productivity of your engine.

Perkins actively pursues product support excellence by insisting our distribution network invest in their territory to provide you with a consistent quality of support across the globe.

Throughout the entire life of a Perkins engine, we provide access to genuine OE specification parts giving 100% reassurance that you receive the very best in terms of quality for the lowest possible cost.

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