



# 4000 Series



The heart of every...  
great machine

# 4000 Series range overview

Perkins' 4000 Series range of engines comprises 6, 8, 12 and 16 cylinder diesel and spark ignited gas engines, developed using the latest engineering technology.

This distinctive range provides trusted reliability, economic parts commonality and clean, efficient power. Add to all of this the benefits of an exceptional power to weight ratio, ease of service, adherence to the latest emissions compliance, and the result is a choice of power solutions that measure up to the toughest requirements of the power generation industry worldwide.

Our customers supply equipment to diverse businesses throughout the world; they demand, and get the best performance from their machines because their success and reputation rely upon it. Our partnerships are proof that Perkins engines and people provide the exceptional power, worldwide services and support that meet those demands.

**Economic, reliable, compact,  
clean and efficient power**



# Product features

## 4006

- 23 litre
- In-line 6 cylinder
- Turbocharged, air-to-air charge-cooled
- Temperate or tropical cooling groups
- Available as either Electrounit, or ElectropaK spec (with loose-coupled cooling group, fan, pipes and guards)
- Commonality of components

The premium design and specification of this second-generation 4006 range have been developed from its successful predecessor; producing an engine which features digital governing and an uprated fuel injection system, ensuring ultra-fine fuel atomisation and controlled rapid combustion. Outstanding load acceptance and excellent service access for ease of maintenance are added to the list of benefits to make these engines a trusted source of power in any location across the globe.



4006-23TAG ElectropaK

## 4008

- 30 litre
- In-line 8 cylinder
- Turbocharged, air-to-air/air-to-water charge-cooled
- Temperate or tropical cooling groups
- Available as either Electrounit, or ElectropaK spec (with loose-coupled cooling group, fan, pipes and guards)
- Commonality of components

This engine has an exceptional power to weight ratio and compact size to give optimum power density for ease of transportation and installation. The 4008 also has lower gaseous emissions for cleaner operation and reduced fuel consumption. These benefits deliver the superior performance and reliability essential for the supply of energy to any business worldwide.



4008-30TAG Electrounit

## 4012

- 46 litre
- Vee 12 cylinder
- Turbocharged, air-to-air/air-to-water charge-cooled
- Temperate or tropical cooling groups
- Available as either Electrounit, or ElectropaK spec (with loose-coupled cooling group, fan, pipes and guards)
- Commonality of components

This second-generation engine is also equipped with the premium features of other 4000 Series models - digital governing and an uprated fuel injection system, giving excellent load acceptance. The 4012 delivers improved serviceability through newly designed radiator assemblies (fewer pipe joints and easier access), meets low gaseous emissions legislation and retains the tough reliability essential to the power generation market.



4012-46TWG Electrounit

## 4016

- 61 litre
- Vee 16 cylinder
- Turbocharged, air-to-air/air-to-water/externally charge-cooled
- Tropical cooling group
- Available as either Electrounit, or ElectropaK spec (with loose-coupled cooling group, fan, pipes and guards)
- Commonality of components

The largest of the range, the 4016 completes the 4000 Series product offering. This engine shows the first-class features and benefits of the other models - exceptional power density, piston temperatures controlled by an advanced gallery jet cooling system, excellent service access for ease of maintenance, efficient, class-leading performance and reliability. The 4016 is the choice to meet the demands of the heavy-duty power generation industry.



4016-61TAG Electrounit

# Extended Service Contract (ESC)

Extended Service Contracts (ESC) protect you from the stress that unexpected repair work brings to your life by covering the costs of getting your engine up and running again. Unlike other extended warranties, Perkins Platinum ESC protects you against all component part failures.



**Saving you from unexpected repair bills**

## Why buy an Extended Service Contract?

- No surprises - Total protection from unexpected repair costs (parts, labour and travel)
- Enjoy longer lasting product support from Perkins global network
- Genuine Perkins parts ensure continued engine performance
- Highly trained technicians carry out all repairs
- Transferable coverage should you sell your machine

## Cost effective comprehensive coverage

- Flexible coverage provides the right level of protection for your Perkins Engine
- Total cost management system
- Coverage can be extended to 2 years/1,000 hours right up to 5 years/8,000 hours
- You can buy an ESC at anytime during standard warranty – even the last day!

## Platinum coverage

- Complete protection against all defective part failures
- Covers labour and travel costs
- Free software upgrades

## Gold coverage

- Safeguards you against almost all part failures
- Covers labour and travel costs



**Purchased in minutes, protected for years**

## Protecting you from unexpected costs

If the worst happened, would you have the money available to cover the cost of an unexpected failure? With an ESC you wouldn't need to worry.

## Supporting you every step of the way

Each Perkins Distributor has highly trained and experienced Perkins Product Support Service Technicians, equipped and available around the clock to get your engine running again with the minimum of downtime. Buying an ESC means you get all this for free. No hassles. No worries. Job done.

## How do I purchase an Extended Service Contract?

Quickly and simply. Contact your local Perkins Distributor now, and they can provide you with a quote in minutes. You can locate your nearest Perkins Distributor by visiting [www.perkins.com](http://www.perkins.com)

## What's not covered by an ESC?

- The costs of normal maintenance or regular servicing of your Perkins engine
- Any accessories or proprietary equipment not fitted by Perkins
- Costs for the repair/replacement of any machine component that has failed as a consequence of a Perkins engine failure

For full details of all exclusions please contact your local Perkins Distributor.



# Customer benefits

## 4000 Series power

**Economic** - 4 valve cylinder heads for optimised gas flow, unit injectors for ultra-fine atomisation and controlled combustion.

**Reliable** - Developed using latest technologies, pistons cooled by advanced gallery jet system, tolerant of wide range of ambient temperatures without derate.

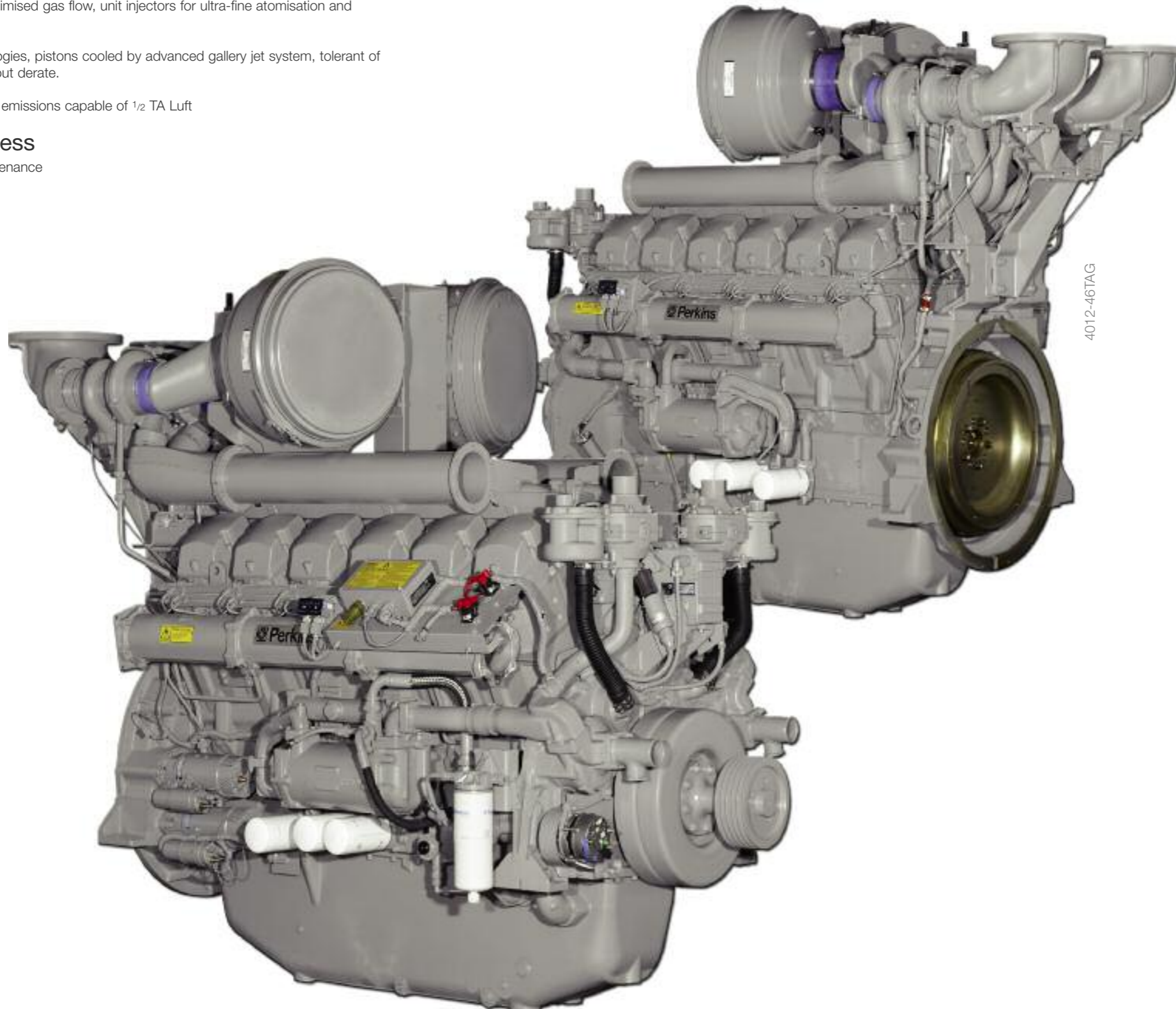
**Compact, clean, efficient** - Low gaseous emissions capable of 1/2 TA Luft

## Outstanding service access

Excellent service access for ease of maintenance

## Excellent load response

Digital governing for excellent control of fuelling to G2 - ISO8528-5 across 4000 range. The benefits gained are better governing, improved load acceptance and exhaust gas emissions.



4012-46TAG



## Versatile packaging options

ElectropaK specifications (includes all pipes, clips, hoses, guards and radiator) with optimised cooling group, offered in either Tropical or Temperate variants and reduced width and height to allow for efficient packaging in customer application.

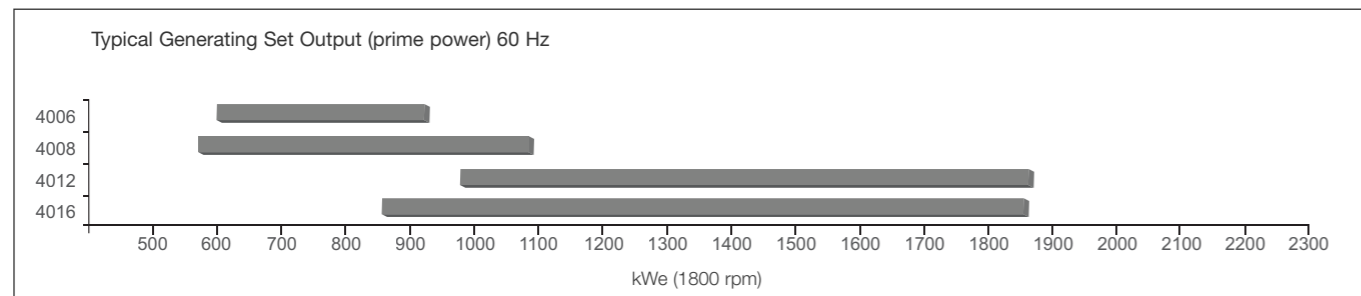
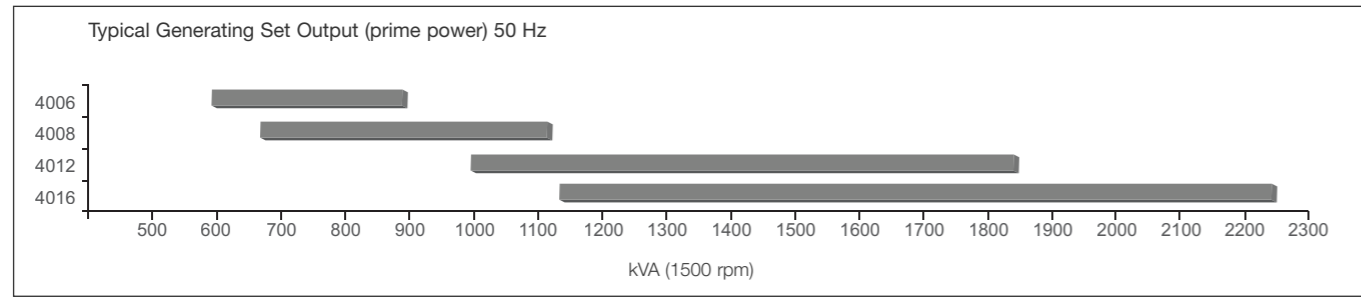
## Component commonality

Commonality of proven components across the range (cylinder heads, pistons, etc) for reduced stocking levels.

## Worldwide power solution

Perkins product support ensures engine expertise is available throughout the world and around the clock. Surpassing customer's needs and keeping Perkins powered machines productive.

## Engine data



## Engine ratings

50Hz 1500 rpm	Baseload		Prime		Standby	
	kWe	kVA	kWe	kVA	kWe	kVA
4006-23TAG2A	468	585	584	730	640	800
4006-23TAG3A	512	640	640	800	720	900
4008TWG2	532	665	675	843	743	929
4008TAG	538	672	679	849	748	935
4008TAG1A	572	715	724	905	797	996
4008TAG2A	647	809	818	1022	900	1125
4012-46TWG2A	791	989	1002	1253	1108	1385
4012-46TWG3A	864	1080	1091	1364	1200	1500
4012-46TAG1A	864	1080	1091	1364	1200	1500
4012-46TWG4A	-	-	1440	1500	1536	1600
4012-46TAG2A	955	1194	1204	1505	1325	1656
4016TWG2	1068	1335	1350	1688	1488	1861
4012-46TAG3A	1136	1420	1364	1705	1500	1875
4016TAG	1114	1392	1402	1752	1543	1928
4016TAG1A	1170	1463	1476	1844	1622	2028
4016TEG1†	1181	1476	1476	1845	1624	2030
4016TEG2†	1312	1640	1640	2050	1804	2255
4016TAG2A	1307	1634	1646	2058	1811	2263

60Hz 1800 rpm	Baseload		Prime		Standby	
	kWe	kVA	kWe	kVA	kWe	kVA
4006-23TAG2A	480	600	600	750	675	844
4008TWG2	508	635	650	812	718	898
4008TAG	536	670	676	846	745	931
4006-23TAG3A	540	675	675	844	750	938
4008TAG1	555	694	707	884	780	975
4008TAG2	626	783	796	995	878	1098
4012-46TWG2A	781	976	992	1240	1097	1371
4012-46TWG3A	869	1086	1095	1369	1200	1500
4012-46TAG1A	864	1080	1091	1364	1200	1500
4012-46TWG4A	-	-	1440	1500	1536	1600
4012-46TAG2A	955	1194	1204	1505	1325	1656
4012-46TAG3A	1136	1420	1364	1705	1500	1875
1200 rpm						
4008TAG1	466	583	592	740	652	815
4008TAG2	520	650	658	823	725	906
4016TAG	872	1091	1100	1375	1212	1515
4016TAG2	1063	1329	1344	1680	1478	1848

- Notes**
- † gross power.
  - All ratings are for guidance only, please refer to the specific engine technical data sheet for final powers.
  - TAG products are Turbocharged, Air-to-air charge-cooled, Generator engines.
  - TEG products are Turbocharged, Externally cooled, Generator engines.
  - TWG products are Turbocharged, air-to-Water charge-cooled, Generator engines.

## General engine data

	4006	4008	4012	4016
Configuration	In-line 6 cylinder	In-line 8 cylinder	Vee 12 cylinder	Vee 16 cylinder
Cycle	4 stroke	4 stroke	4 stroke	4 stroke
Bore/Stroke	160/190 mm	160/190 mm	160/190 mm	160/190 mm
Capacity	23 litres	30 litres	46 litres	61 litres
Combustion system	Direct injection	Direct injection	Direct injection	Direct injection
Induction system	Turbocharged, air-to-air charge-cooled	Turbocharged, air-to-air/air-to-water charge-cooled	Turbocharged, air-to-air/air-to-water charge-cooled	Turbocharged, air-to-air/air-to-water/externally charge-cooled
Cooling system	Water-cooled	Water-cooled	Water-cooled	Water-cooled

## Standard spec

- High grade cast-iron cylinder block with integral crankcase inspection doors
- Wet liners
- Forged steel crankshaft
- Forged and carburised camshaft
- High grade cast iron individual cylinder heads
- Aluminium alloy pistons with gallery oil cooling and three-ring pack
- Split-cap forged steel connecting rods
- Spin-on replaceable type lubricating oil filters
- Shell and tube oil coolers, jacket water-cooled
- Crankcase ventilation
- Pressurised fresh water jacket water cooling system
- Choice of air-to-water or air-to-air charge-coolers
- Paper element air filters with restriction indicators
- Exhaust gas-driven turbochargers
- 24V electric starter motors and battery charging alternator
- Viscous type torsional vibration damper(s)
- Overspeed switch and sensor
- Engine supports: front and rear mounted off the crankcase
- Commercial primer finish
- All engines are preserved after test running, shrink wrapped and suitable for containerised shipment

All engines available as ElectropaK specification with cooling group, pipes, fan and guards, with electronic governor, air cleaners

## Options

- Changeover oil filter
- Changeover fuel filter
- Centrifugal oil bypass filter (1500 rpm only)
- Immersion heater kit (240V)
- Secondary electric starter
- High exhaust temperature shut-down protection (standard on 4008 1800 rpm, 4012 and 4016)
- Fuel isolation valve and strainer
- Engine-driven raw water pump (not applicable to TAG engines)
- Standard RAL gloss paint
- Alternative gloss paint
- Fuel cooler (delete option)
- Torsional vibration analysis
- Witness engine brake test
- Additional speed pick-up
- Single exhaust outlet (4006 and 4008)
- 4 metre customer harness



# Product support excellence

In the modern, global marketplace, Perkins recognises it is not enough to be a manufacturing company with a quality product. It is also about creating relationships and building trust, and getting to know the specific needs of our customers.

Our customers expect quick, proactive responses to their requirements. Perkins understands that these requirements are different, according to each specific customer. Product Support Excellence is a key element in delivering a consistent, high quality response and a fundamental part of the total Perkins power solution.

Our global network is the strength and presence of Perkins Product Support. It forms the foundation of the enduring, quality relationships we have with our customers and delivers the promise we have made.

Our product support promise to keep Perkins' engines running, wherever they are located in the world, is a reality. To ensure we keep this promise, our investment in the skills and training of our people is constant. Perkins Regional Training Centres set the high standards required of our engine experts to meet the challenges of new technology and the commitment of quality service to our customers.



Our Product Support Excellence has one purpose - to give our customers peace of mind that our engines will keep their equipment running. So, whatever the age or condition of a Perkins engine, wherever it is, and whether it needs standard maintenance, complete overhaul or comprehensive repair, we have the people with the expertise and tools to do the job - so our customers' equipment can do theirs.

The cornerstones of our Product Support Excellence are:

- Global Distributor/Dealer Network - our customers' portal to quality service and support
- Parts Distribution - genuine parts to extend engine life and performance
- Service Excellence - on-line information and tools; TIPSS (The Integrated Product Support Solution) - providing the very latest diagnostic and technical information
- Service Solutions - Power Exchange Components - a sustainable, cost effective, high quality service solution

Retaining our position as a market leader is proof that we listen to our customers and focus on their needs. It is this commitment that differentiates Perkins from our competitors and enables us to meet and exceed our customers expectations.



# Global Network

## Worldwide Service Support

### Over 75 Years Experience

- 132 distributors
- 184 countries
- Technical support
- Warranty support



# Service Excellence

## Distributor/Dealer Service Standards

- Product Training – skilled on the latest technology
- Required Tooling – electronic and speciality tools for fast, high quality repair
- Information Systems – on-line access for up to date technical data
- Parts in stock – critical parts on the shelf to minimise down time



# Parts Distribution

## Global Parts Network

- Genuine Parts – designed specifically for your engine
- High availability – over 40,000 parts in stock
- On-line Parts information – ensures the correct part
- Direct Ship – next day delivery for most of Europe



# Service Solutions

## Lower Owning and Operating Cost

- Power Exchange Components – a sustainable solution
  - Remanufactured to like new specification
  - Typically 60 to 70% the price of a new component
- Extended Service Contracts – added protection for your engine



# Related Literature

Publication No. PP1107	Publication No. PN1891	Publication No. PP1144	Publication No. PP827

Product Support excellence is all about commitment to our customers; giving them the assurance that we understand their specific needs, and that our engines will keep their equipment running

# 4000 Series gas

Perkins 4006, 4008, 4012 and 4016 are available in spark-ignited form to run on a wide range of methane-based gases. These clean, efficient gas engines offer high performance and dependability and are available as a Gas Electrounit for power generation, or as a Cogen Unit for combined heat and power applications (4016-E61TRS is available as cogen unit only). The very latest developments in combustion and engineering techniques give world-class fuel efficiencies, economical whole-life costs and outstanding reliability.

In excess of 40% mechanical efficiency, capable of meeting the NOx requirements of TA Luft.

TRS engines have individual large-valve cylinder heads with specially matched deep-bowl pistons for greater swirl. Gear-driven, externally mounted lubrication oil pump.

Electronic ignition system with individual cylinder ignition coils, electronic control system giving governing to ISO8528-5 class G2.



## Engine ratings

50Hz 1500 rpm	Baseload	
	kWe	kVA
4006-23TRS1†	307	384
4006-23TRS2†	375	469
4008-30TRS1†	425	531
4008-30TRS2†	500	625
4012TES†	607	759
4016TES†	815	1019
4016-E61TRS	1008	1260

60Hz 1200 rpm	Baseload	
	kWe	kVA
4012TES†	575	720
4016TES†	772	965

Engine Model	Baseload	
	kWe	kVA
4016-61TRS1	875	1093
4016-61TRS2	1000	1250

### Notes

- † gross power.
- All ratings are for guidance only, please refer to the specific engine technical data sheet for final powers.
- All 4000 Series diesel engines are 4 stroke, 4 litre-per-cylinder, turbocharged, air chargecooled, direct injection, water cooled engines.
- TES† products are Turbocharged, Spark Ignition.
- TRS products are Turbocharged, Spark Ignition.

## General engine data

	4006	4008	4012	4016
Configuration	In-line 6 cylinder	In-line 8 cylinder	Vee 12 cylinder	Vee 16 cylinder
Cycle	4 stroke	4 stroke	4 stroke	4 stroke
Bore/Stroke	160/190 mm	160/190 mm	160/190 mm	160/190 mm
Capacity	23 litres	30 litres	46 litres	61 litres
Combustion system	Spark ignition	Spark ignition	Spark ignition	Spark ignition
Induction system	Turbocharged, air-to-water charge-cooled	Turbocharged, air-to-water charge-cooled	Turbocharged, air-to-water charge-cooled	Turbocharged, air-to-water charge-cooled
Cooling system	Water-cooled	Water-cooled	Water-cooled	Water-cooled
Length	2242 mm/*2242 mm	2658 mm/*2559 mm	2650 mm	3482 mm
Width	1633 mm/*1418 mm	1633 mm/*1418 mm	1895 mm	1485 mm
Height	1787 mm/*1787 mm	1782 mm/*1782 mm	1860 mm	2070 mm
Dry weight	2650 kg	3350 kg	4680 kg	5600 kg

\*Cogeneration unit

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