Perkins Parts and Service

Perkins air, fuel and oil filters catalogue

The **difference** is in the **detail**

Perkins®

THE HEART OF EVERY GREAT MACHINE

Ultimate protection
for your engine

All filters have the same primary purpose – to keep unwanted debris and other material out of the working parts of your engine. Any material not caught by a filter can potentially damage your engine and, at the very least, compromise its efficiency.

For consistent and reliable performance, economical fuel consumption and long life, it is vital that engines are serviced on a regular basis and that quality filters are used every time.

Designed and tested for performance

Perkins filters provide unbeatable protection as every filter is made to the original specification. They are designed by Perkins to meet the performance requirements of each engine and are tested extensively at high and low temperatures, tilted to 45 degrees and at high altitudes. Perkins filters are designed to capture all the contaminants during the service period and leave a safety margin, just in case the engine service has to be delayed or the engine is working in a dirty environment.

By knowing the engine construction and typical condition under high load, we can be sure that our filters will effectively protect your engine. Non-genuine filter manufacturers make assumptions about engine design, fuel flow, pressures and vibration, and are not tested on the engines they are specified for.

Don't risk downtime with anything else.
www.perkins.com/filters

Make a sound investment

Your machine is a significant investment. Genuine parts and filters are crucial to maintain your engine's efficiency and manage ongoing operation costs. Using non-genuine filters may initially seem more economical. However, as little as a 3 percent higher fuel consumption because of injector wear, or costly turbocharger repairs and downtime, will soon outweigh the savings.

The cost of non-genuine filters

- Damage to critical components: injectors, turbochargers, rings, pistons and cylinder components
- The engineer's time to replace the damaged parts
- Higher fuel consumption due to worn bearings, pistons and rings, or worn injectors
- Further costs from the downtime of the machine
- Lower residual value of the machine when the times comes to sell it

Perkins genuine filters guarantee

- Removal of abrasive contaminants
- Reduction in wear of engine components
- Peak engine performance
- Optimal fuel economy

Genuine filters are crucial to maintain your engine's performance.

What makes
for an effective filter?

The effectiveness of oil and fuel filters is driven by two key features: filtration efficiency and dirt-holding capacity.

Measuring filtration efficiency

Filtration efficiency is a measure of the percentage of particles captured of a specific size. Typically, modern fuel filters can capture particles larger than five microns and will even capture some smaller particles, while oil filters trap particles larger than 25 microns. To put this into context, a human hair measures about 70 microns.

Measuring dirt-holding capacity

Dirt-holding capacity is the amount of contaminant that can be removed and held by the filter until it no longer works. It is no good having a highly efficient filter that removes small particles if it has a low capacity, as after a short period the filter will block and the pressure can cause the filter to rupture, resulting in fuel leakage or the free flow of oil.

How to compare different filters?

Not every filter manufacturer quotes the same information. Sometimes a manufacturer will quote the smallest particle size, with a nominal efficiency figure (50 percent of the particles captured), whilst some manufacturers quote the highest percentage of capture at a particle size. This makes it very difficult to compare filters using data. That's why it's crucial to only use genuine Perkins filters.

Make sure your engine goes the distance.
www.perkins.com/filters

Perkins® Ecoplus filters – go greener, go further

Perkins® Ecoplus filters use an ‘element based’ design, which means they are significantly better for the environment. With no metal can or centre tube to dispose of, they require fewer materials to manufacture, minimise waste after use and can be easily and cheaply incinerated or recycled.

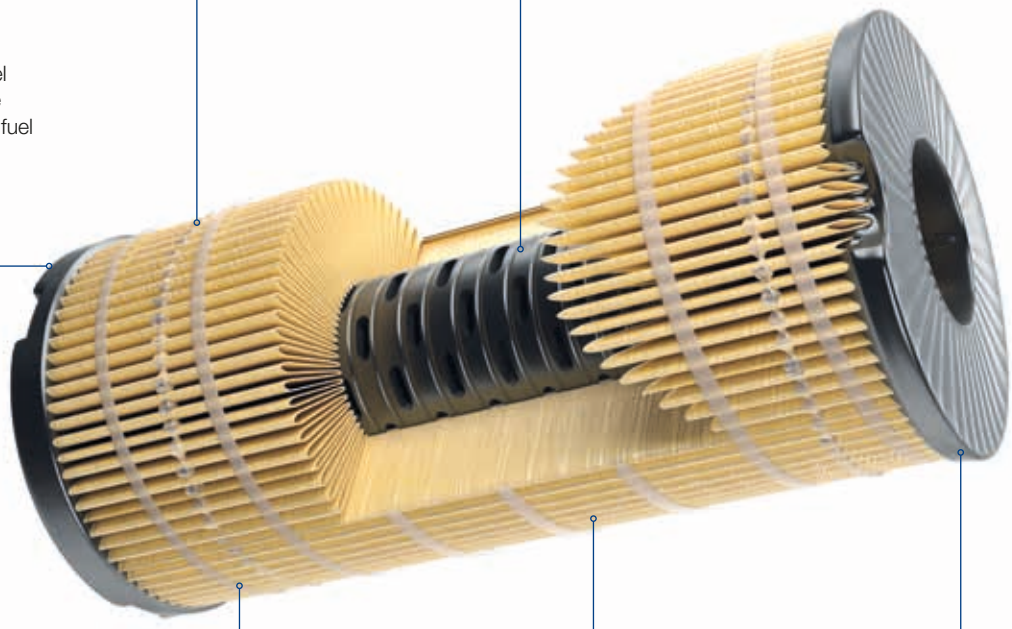
Not only a greener solution, Perkins Ecoplus filters are the best defence against contaminants, safeguarding your engine and extending the lifetime of your investment. More than half of Perkins engines currently in production are fitted with Ecoplus fuel filters.

Unique features of Perkins Ecoplus

Prefill deterrent
The top end cap prevents dirty fuel from entering the clean side of the fuel system

Acrylic beads
Pleat spacing is rigidly maintained by acrylic beads that prevent bunching and provide maximum filtration surface area throughout the life of the filter

Non-metallic centre tube
Made from fibreglass reinforced nylon, this centre tube is 30 percent stronger than typical metal tubes to help prevent collapse during pressure spikes and cold starts. Non-metallic centre tubes also eliminate a common source of metal contamination



Spiral roving
A fibreglass spiral roving is used to prevent the pleats from flexing, keeping contaminants locked in the filter

Advanced filter media
A layer of cellulose/synthetic media is combined with a second layer of melt-blown polypropylene media to increase dirt-holding capacity

Urethane end caps
Ensure effective sealing between the media and end caps, to prevent potential leak paths

Oil filters –
run smoother and easier

Diesel engine oil circulates around the engine to provide cooling and lubrication, which is essential for the long life of an internal combustion engine. The oil filter ensures efficient and consistent lubrication by extracting carbon from the combustion process, metal wear particles and other abrasive contaminants. Typically, the entire engine oil capacity is filtered every 12 to 15 seconds.

What damage can a poor quality filter cause?

Carbon and other particles from combustion can result in sludge build up, causing a decrease in oil flow to the operating components leading to a reduction in lubrication and cooling. Reduced oil flow can cause turbocharger damage with wear to the bearings, leading to abrasion of the vanes and potential catastrophic failure. Carbon and metal wear particles can also lead to wear and damage of pistons, rings, cylinders and bearings. At best, this leads to reduced power, increased fuel consumption and increased engine emissions. At worst, terminal engine failure.

Without enough filter capacity, a low quality filter can block too quickly, causing the filter to rupture and dirty oil to circulate. Too high a filtration efficiency can also cause blockages, while too low a filtration efficiency allows many larger sized particles to circulate. Weak bypass valves or endcap glue can also allow dirty oil to circulate without being filtered.

Quality you can trust

High quality filters provide better engine performance, running smoother and easier with less internal friction and lower fuel consumption. Since you cannot see inside an oil filter, it's not easy to see the quality. You also won't see the damage until it's serious. So why take that risk?

Perkins filters are designed and tested extensively on our engines, so that you can be sure they will be effective. Perkins oil filters are designed to capture all the contaminants during service period and leave a safety margin, just in case the engine service has to be delayed or the engine is working in a dirty environment.

Perkins spin-on oil filters

- High quality media traps debris to protect the engine throughout service life
- Ultra-strong adhesive ensures a perfect seal and prevents leakage
- High quality steel canister withstands even the most strenuous vibration to prevent leaks
- Anti-drain back valve ensures fast oil circulation at start-up
- Bypass valve ensures oil circulates quickly to prevent oil starvation at start-up

Find the right oil filter for your engine on **pages 12-19.**

CONSTRUCTION EQUIPMENT Top 100 new products 2019

Perkins® new Ecoplus oil filters were selected for Construction Equipment's Top 100 New Products.

NEW Perkins
Ecoplus oil filters

Developed by Perkins and installed on the new Perkins® Syncro 2.8 and 3.6 litre engines, Perkins Ecoplus oil filters offer outstanding protection as well as cleaner filter change:

- Spiral roving, acrylic beads and moulded endcaps improve filtration
- Improved media and construction for a smaller and more compact filter
- Self-draining for an easier and cleaner oil change
- More robust and reliable bypass valve provides consistent engine protection

Fuel filters –
maximise your performance

Clean diesel fuel is necessary to maximise the power and output from your engine. Contaminants such as dirt, metal and water can be contained in the fuel, which can cause abrasive damage and corrosion. Contaminants can enter the fuel during manufacture, transportation or storage. They can then transfer to the engine or be introduced by the engine fuel system. Fuel filters protect the fuel injection system by removing these particles and water.

What damage can inadequate fuel filtration cause?

Inadequate fuel filtration will result in dirty fuel. This can lead to wear and early failure in key components such as injectors, control valves and pumps. Particles as small as five microns can cause scoring and damage of the injector valve seats, resulting in fuel leakage when the injector should be closed. This means increased fuel consumption, over-fuelling, poor engine starting and improper idling.

Significant levels of water can also cause problems such as corrosion and pitting in the fuel system and injector wear. Water can also cause sudden cooling in the engine which may result in shortened engine life.

In tests, injectors with Ecoplus type filters showed significantly less wear and fuel leakage than those with competitive filters. Using Ecoplus type filters gave 45 percent more injector life than competitive filters when in the presence of dirty fuels.

Made for real-world conditions

Whilst Perkins specifies that fuel should be good quality, we design our fuel filters to cope with a wide range of fuel standards around the world. Non-genuine filter manufacturers make assumptions about engine design, fuel flow, pressures and vibration, and are not tested on the engines they are specified for.

Laboratory testing is not always a good indicator of fuel filter performance in the field. In tests, we have found significant differences between stated and actual performance, due to vibration and real-world conditions influencing the effectiveness of the fuel filter.

Perkins Ecoplus fuel filter

- Acrylic beading and spiral roving prevents bunching
- Urethane end caps eliminate leaks
- Non-metallic centre tube prevents risks from harmful swarf
- Multi-layer media for improved water separation
- Anti-fill technology prevents dirty fuel being used when priming the engine

Find the right fuel filter for your engine on **pages 12-19.**

Perkins Ecoplus filters provided **45 percent** more injector life in tests against competitors.

1200 Series
fuel water pre-filters

The 1200 Series fuel water separators are the next step up from Perkins Ecoplus filters, with improved media and design:

- Coalescing water separator action
- Water separation improved by three times
- Virtually eliminates free water in fuel
- Reverse flow design – requires extra care when handling as outer is the clean side
- Bowl-less design eliminates potential fuel leaks and bowl damage

Air filters – reliable from start to finish

The air filter has two conflicting jobs. It must prevent dirt and dust entering the engine and contain them in the filter material, while still allowing the right amount of air to enter to enable the correct combustion. However, as dirt is trapped it blocks the filter. This makes the filter more efficient, but it can restrict airflow into the engine. Restricting the airflow can reduce your engine's power and increase fuel consumption, leading to inefficient running and unreliable starting.

Why is a genuine air filter important?

Air, especially in off-road industrial environments, contains varying impurities depending on the weather and environment, so the air filter must offer the highest performance characteristics. Airborne contaminants with a high potential to damage your engine include soil minerals and fine powders like cement dust, ash, soot and smoke.

Ineffective filtration can lead to dirt and debris entering the engine, which can damage cylinder bores and piston rings. Where an engine is fitted with a turbocharger, small particles can lead to wear and damage to vanes and impellors. Non-genuine filters may also cause higher restrictions to airflow, and therefore a reduction in engine power – requiring increased fuel consumption to deliver the same output. Increased speed and power can lead to an increase in engine exhaust temperature, which in turn may cause an overload on parts like the turbocharger.

When to change an air filter?

Finding the right time to change your air filter is key. Changing it too soon can result in higher costs. But changing your filter too late can result in a significant reduction in engine performance, together with the risks of engine damage should the filter media rupture.

Why replace an air filter instead of cleaning it?

Trying to clean an air filter always comes at a risk. Using compressed air to clean the filter can push particles through the media, causing large gaps which will not filter the air. Removing particles can also weaken the media, making it less efficient at holding particles, resulting in a less efficient filter.

Perkins air filter features

- High-performance media, with even pleat spacing for optimal flow and particle capture
- Galvanised steel wrappers protect the media and provide structural strength
- Radial seals resist air bypass and provide a more durable and efficient seal
- Constructed to ensure minimal airflow restriction and leak resistance
- Two-stage filtration with venturi type feature removes large particles
- Environmentally-friendly construction for recycling of plastics

Find the right air filter for your engine on **pages 12-19.**

A Perkins air filter stops **99.99 percent** of particles.

99.99 percent makes all the difference

Typically, a Perkins air filter stops over 99.99 percent of particles – so what is the difference between 99 percent and 99.99 percent?

Extremely dirty environments may have up to 600 micrograms/m^3 of dirt and dust in the air. With an engine intake of 500 m^3 of air an hour or 250,000 m^3 in 500 hours, the air filter would be subjected to 150 grams of dirt every 500 hours.

The difference between a 99 percent air filter and a 99.99 percent air filter would be 1.485 grams entering your engine every 500 hours. That's more than one-third of a teaspoon, and a significantly higher chance of damage.

Engines in production

Part number	Description			1103 Series	1104 Series Mechanical	1104 Series Electronic
	Typical service interval	Oil	Hours Months	500 12	500 12	500 12
		Fuel	Hours Months	500 12	500 12	500 12
2654403	Oil filter	Spin on		●		
2654407	Oil filter	Spin on			●	●
4627133	Oil filter	Spin on				
26560145	Pre-filter	Bayonet				
2656F853	Pre-filter	Cartridge				●
4415122	Pre-filter	Cartridge		●	●	
4794132	Pre-filter **(Ecoplus)**	Element				
4794134	Pre-filter **(Ecoplus)**	Element				
26560143	Fuel filter	Bayonet				
26561118	Fuel filter	Spin on		●	●	
2656F843	Fuel filter	Spin on				●
3611274	Fuel filter **(Ecoplus)**	Element				●
4461492	Fuel filter **(Ecoplus)**	Element		●		
4816635	Fuel filter **(Ecoplus)**	Element		●		
4816636	Fuel filter **(Ecoplus)**	Element			●	
26510337	Air filter	Main		●	●	
26510338	Air filter	Safety		●	●	
26510342	Air filter	Main			●	
26510343	Air filter	Safety			●	
26510353	Air filter	Main				
26510354	Air filter	Safety				
26510362	Air filter	Main		●		
26510380	Air filter	Main			●	●
26510381	Air filter	Safety			●	●
2652C831	Air filter	Main				
2652C832	Air filter	Safety				
2652C845	Air filter	Main				●
2652C847	Air filter	Safety				●

1106 Series Mechanical	1106 Series Electronic	1204 Series	1206 Series
500 12	500 12	500 12	500 12
500 12	500 12	500 12	500 12
●			
●	●	●	
●	●	●	●
●			
	●		
●			
		●	●
		●	
●			
	●		
	●	●	●
	●		●
	●		●
●			
●	●		●
●	●		●
		●	
		●	

Engines in production

Part number	Description		1500 Series	1700 Series	2200 Series	2506 Series
4324909	Oil filter	Spin on				
4587260	Oil filter	Spin on	●	●	●	●
CH10929	Oil filter **(Ecoplus)**	Element				
4587258	Fuel filter	Spin on	●			
4587259	Pre-filter	Spin on	●	●		
4650996	Fuel Filter	Spin on		●	●	●
4759205	Fuel filter	Spin on				
4770550	Fuel Filter	Spin on				●
CH10930	Pre-filter **(Ecoplus)**	Element				
CH10931	Fuel filter **(Ecoplus)**	Element				
SE429	Fuel filter	Spin on				
4526544	Air filter	Main				
4642410	Air filter	Main	●			
4881643	Air filter	Main	●			
5125874	Air filter	Main		●		
5125872	Air filter	Safety		●		
5458596	Air filter	Main			●	
S551/4	Air filter	Main				
SEV551/4	Air filter	Main				
SEV551A/4	Air filter	Main				
SEV551F/4	Air filter	Main				●
SEV551H/4	Air filter	Main				

Part number	Description			400 Series	854 Series	Perkins® Syncro 2.8 and 3.6 litre
	Typical service interval	Oil	Hours Months	500 12	500 12	500 12
		Fuel	Hours Months	500 12	500 12	500 12
140517030	Oil filter	Spin on		●		
140517050	Oil filter	Spin on		●		
4416851	Oil filter	Spin on			●	
5698037	Oil filter	Element				●
130366040	Pre-filter	Element		●		
130306132	Pre-filter	Inline cartridge		●		
130306360	Pre-filter	Gauze		●		
3577745	Pre-filter **(Ecoplus)**	Element			●	
26561117	Fuel filter	Cartridge		●		
3611274	Fuel filter **(Ecoplus)**	Element			●	
4429491	Fuel filter	Spin on		●		
4981344	Fuel Filter **(Ecoplus)**	Element				●
5181457	Fuel filter **(Ecoplus)**	Element				●
135326205	Air filter	Main		●		
135326206	Air filter	Main		●		
26510337	Air filter	Main		●		
26510338	Air filter	Safety		●		
26510342	Air filter	Main			●	
26510343	Air filter	Safety			●	
26510362	Air filter	Main		●		

2806 Series	4006 Series	4008 Series	4012 Series	4016 Series
	●	●	●	●
●				
●				
●				
	●	●	●	●
●				
●				
				●
		●		●
	●	●	GAS	GAS
			●	
				●
●				
			●	

Engines no longer in production

Part number	Description			Perama/100 Series	Prima/500 Series	700 Series IDI
	Typical service interval	Oil	Hours Months	200 6	400 6	250 6
		Fuel	Hours Months	200 6	400 6	250 6
2654403	Oil filter	Spin on				
2654407	Oil filter	Spin on				
2654408	Oil filter	Spin on				
2654409	Oil filter	Spin on			●	
2654412	Oil filter	Spin on				●
1405017050	Oil filter	Spin on		●		
130366040	Pre-filter	Element		●		
26560145	Pre-filter	Bayonet				●
26560143	Fuel filter	Bayonet				●
26561117	Fuel filter	Cartridge				●
26561118	Fuel filter	Spin on			●	●
4429491	Fuel filter	Spin on		●		
26510214	Air filter	Main				
26510337	Air filter	Main		●		
26510338	Air filter	Safety		●		
26510342	Air filter	Main				
26510343	Air filter	Safety				
26510353	Air filter	Main				
26510354	Air filter	Safety				
26510362	Air filter	Main		●		

700 Series DI	900 Series	Phaser 1004 Series	Phaser 1006 Series	New 1004 Series	New 1006 Series
500 12	500 12	400 12	400 12	400 12	500 12
500 12	500 12	400 12	400 12	400 12	500 12
	●	●	●	●	●
		●	●	●	●
				●	
●	●				
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●		
●		●	●	●	●
			●		
		●			
		●			
		●	●	●	●
		●	●	●	●
			●		●
			●		●
	●				

Engines no longer in production

Part number	Description			3.152 Series	D3.152 Series	4.108 Series
	Typical service interval	Oil	Hours Months	400 12	250 4	150 3
		Fuel	Hours Months	400 12	250 4	450 12
2654403	Oil filter	Spin on				●
2654407	Oil filter	Spin on				●
2654408	Oil filter	Spin on		●	●	
26561117	Fuel filter	Cartridge		●	●	●
26566602	Fuel filter	Canister		●	●	
26510192	Air filter	Main		●	●	●
26510211	Air filter	Main				
26510214	Air filter	Main				
26510216	Air filter	Main		●	●	●
26510342	Air filter	Main				
26510343	Air filter	Safety				
26510353	Air filter	Main				
26510354	Air filter	Safety				
26510362	Air filter	Main		●	●	

Part number	Description		2006 Series	2306 Series	3008 Series	3012 Series
CV2473	Oil filter	Spin on	●		●	●
CH10929	Oil filter **(Ecoplus)**	Element		●		
CH10930	Pre-filter **(Ecoplus)**	Element		●		
CH10931	Fuel filter **(Ecoplus)**	Element		●		
OD19596	Fuel filter	Spin on	●		●	●
5458596	Air filter	Main		●		
CV20948	Air filter	Main	●		●	●
CV9685	Air filter	Main	●		●	●
26550001	Coolant filter	Spin on	●			

Protect your engine from start to finish.
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4.203 Series	4.236 Series	6.354 Series	V8 Series
250 4	250 12	250 4	500 6
500 12	500 12	500 12	1000 12
	●	●	
		●	●
●			
●	●	●	
		●	●
	●	●	●
	●	●	●
●	●		
	●	●	
	●		
		●	●
		●	●

Perkins Sales

Americas

North America
1600 W Kingsbury St
Seguin
Texas 78155
United States
Toll free number: 1-888-PERK-ENG

South America
Rua Dr. Chucri Zaidan, 1240
Golden Tower – 17th Floor
São Paulo – SP CEP 04711-130
Brazil
Tel: +55 11 2109 2038

Asia

China
20/F Lei Shing International Plaza
1319 West Yan'an Road
Shanghai 200050
China
Tel: +86 21 22160774
Fax: +86 21 52136624

India
Floor 6, Tower 'B' Prestige Shantiniketan
The Business Precinct, Whitefield Main Road
Bangalore 560048
India
Email: IPSD_India@perkins.com

Japan
Ocean Gate Minato Mirai 12F
3-7-1 Minatomirai, Nishi-ku, Yokohama city
Kanagawa, 220-0012
Japan
Tel: +81 45 682 3579
Fax: +81 45 682 3690

Asahi Seimei Matsumoto Fukashi building 3F
1-1-15 Fukashi, Matsumoto city
Nagano, 390-0815
Japan
Tel: +81 263 87 2003
Fax: +81 263 39 1682

Korea
11F, Songchon Building, 503
Nonhyeon-ro, Gangnam-gu
Seoul 06132
Korea
Tel: +82 10 8669 8358

Singapore
14 Tractor Road
Singapore 627973
Tel: +65 6828 7469
Fax: +65 6828 7414

Europe, Middle East and Africa

Peterborough, PE1 5FQ
United Kingdom
Tel: +44 1733 583000

www.perkins.com

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