



Donaldson Delivers
**Full-Flow Lube Filters
for Cummins® ISX Engines**

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BY MEASUREMENTS THAT MATTER – Donaldson Lube Filters Outperform

Every oil filter needs to effectively balance three characteristics: efficiency (contaminant removal), capacity (contamination holding ability) and restriction (resistance to oil flow). Donaldson full-flow lube filters process the entire regulated oil flow through our pleated elements, even in cold temperatures – meaning your engine receives critical lubrication protection. Two-stage stacked disc filters allow only a portion of the flow to pass through the high-efficiency stage – which means more contaminant can pass on to the engine.

That’s precisely why Donaldson recommends full-flow lube filters that strike the right balance for Cummins ISX and other heavy-duty engines. Donaldson filters deliver:

- Ultra-high efficiency on fine particulate and oil degradation (sludge),
- Higher contaminant holding capacity, and
- Minimum oil flow restriction.

It all adds up to filters that provide critical engine component lubrication – and simply deliver better engine protection.

Design Comparison & Oil Flow



BUILT TO PERFORM

– Donaldson Has the Right Filter for You

Donaldson offers three different lube filters for ISX engines that keep oil cleaner by capturing more contaminants that can cause engine wear. Choose the filter that best fits your requirements.

OEM Efficiency

High Efficiency

STANDARD SEALS

HEAVY-DUTY SEALS



P550949

OEM Efficiency

Reliable contaminant capture and capacity (life). If you've experienced filter plugging due to excessive sludge caused by soot or coolant contamination – this is the filter for you.

- Efficiency: >99% @ 30µm
- 35% lower oil flow restriction than LF9080

CROSSES TO:

Cummins 2882674 / Fleetguard LF9080



P559000

High Efficiency

Increased levels of contamination capture combined with good capacity. Offers a higher level of engine protection than the OEM standard option.

- Efficiency: 99% @ 15µm
- 13% lower oil flow restriction than LF9080



DBL7900

High Efficiency with Heavy-Duty, Long-Life Seals

If your primary concern is engine protection – this premium filter will deliver with durable nitrile seals and heavy-duty potting materials to withstand extreme conditions and hot oil temperatures.

- Efficiency: 99% @ 15µm
- 40% lower oil flow restriction than LF9031

Cummins 4906633 / Fleetguard LF9031

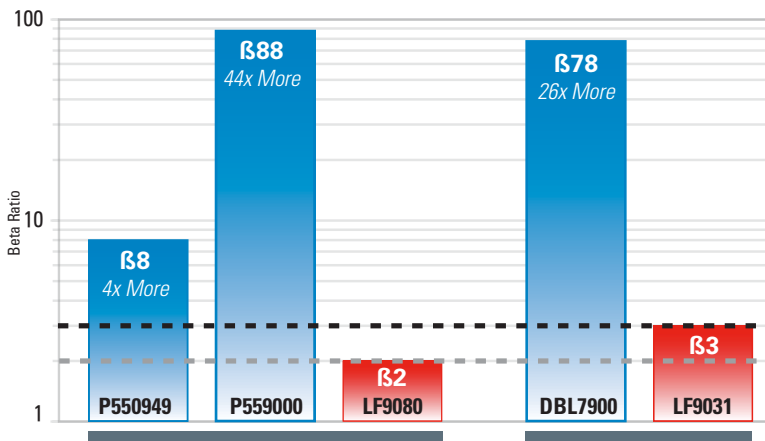
Tested per ISO 4548/12 and ISO 3968.

NO MATTER HOW YOU STACK IT – Donaldson Lube Filters Outperform

The proof is in the performance. Donaldson filters offer superior protection for your engines. Tested per the filtration industry test method ISO 4548/12, Donaldson filters deliver superior contaminant removal efficiency and contaminant holding capacity.

START TO FINISH
4-44x more efficient
and holds up to **40%** more contaminant
THAN OEM FILTERS

Contaminant Removal Efficiency

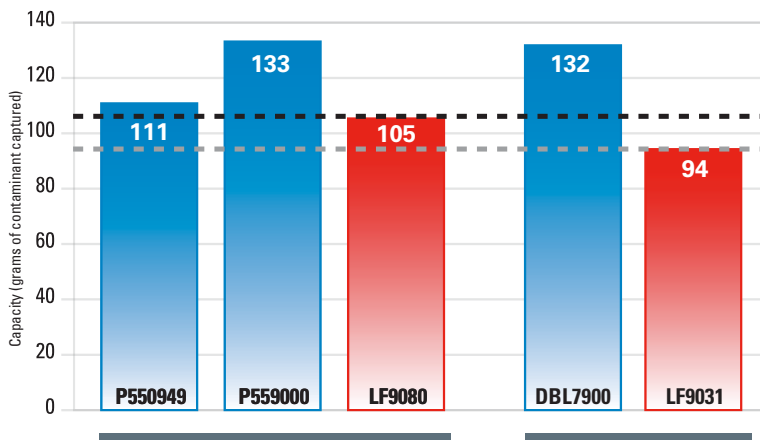


Better Engine Protection
4-44x More

Donaldson filters protect engines*

All three Donaldson options provide better filtration efficiency.

Contaminant Holding Capacity



Extra Contaminant Captured
Up to 40% More

Donaldson filters catch more dirt*

Donaldson filters offer superior contaminant holding capacity.

* Efficiencies are compared by forming beta ratios. Beta ratio is represented by **contaminant-in** divided by **contaminant-out**.

Tested per ISO 4548/12. Flow Rate at 150 lpm. Termination at 100 psid / 689.5 kPa. Efficiency time weighted average at $\geq 15\mu\text{m}_{10}$.

SLUDGE OR DIRT, PERFORMANCE MATTERS – Donaldson Lube Filters Outperform

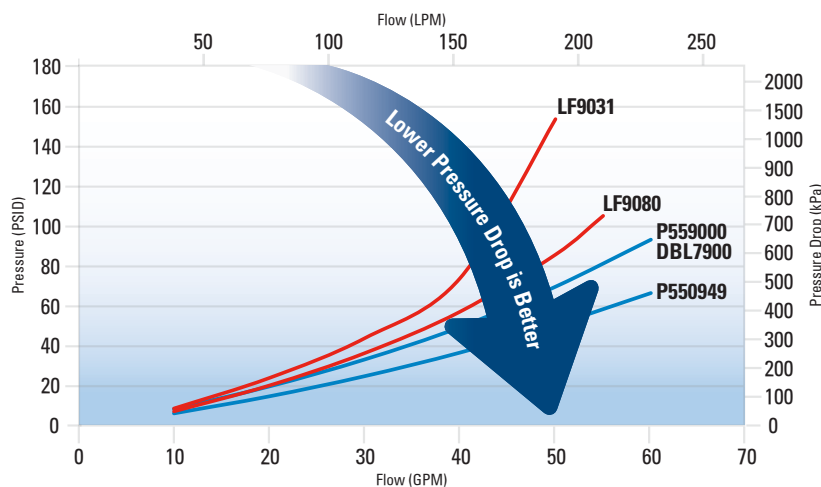
Regardless of the type of contaminant, high oil flow restriction means less effective filtration performance.

ON AVERAGE

33%

lower oil flow restriction THAN OEM FILTERS

Oil Flow Restriction



Tested per ISO 3968 at 450cSt.

Lower pressure drop – better filtration performance

Lower pressure drop (lower resistance to flow) means the engine is less likely to experience oil flow restriction that could result in unfiltered oil bypassing the filter.

FILTERING THROUGH THE FACTS

**Certified Industry Tests Methods –
and More than a Decade of On-Equipment Use – Deliver Proven Performance**

There are a wide range of contaminants that can create damage and wear in today's engines – dirt, soot and even sludge. Donaldson filters are specifically designed to keep oil cleaner by capturing these contaminants that can cause engine wear. At Donaldson, our approach starts with verified testing (our labs are ISO/TS Certified and our performance testing procedures meet ISO, SAE and NFPA testing standards) and have been proven time and again with more than a decade of on-equipment use. **Remember, ISO 4548/12 is the industry standard filtration performance test for determining the contaminant holding capacity and contaminant removal efficiency.** Our filters have traveled billions of miles. Our disciplined approach to performance verification has allowed us to develop a full range of filter options for ISX engines – filters you can trust to perform.

UNDER PRESSURE AND IN THE COLD – Donaldson Lube Filters Outperform

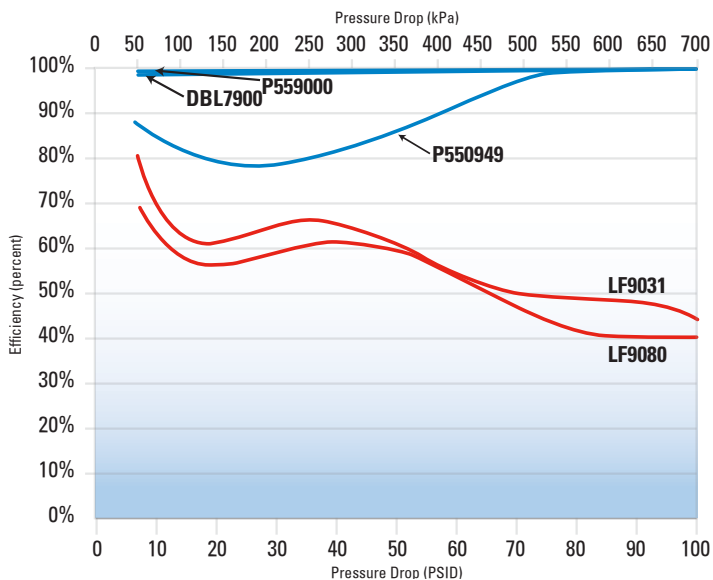
Cold start is perhaps the most extreme condition your engines will encounter. Oil typically drains to the sump and the oil viscosity will be higher until the engine warms. This is when your engine needs clean lubrication the most. Fortunately, Donaldson filters really shine – even under the toughest conditions.

START TO FINISH

More

efficient under high restriction conditions
COMPARED TO OEM FILTERS

Efficiency versus Flow Restriction



Tested per ISO 4548/12. Flow Rate - 150 lpm at 100°F / 38°C.
Termination at 100 psid / 689.5 kPa.
Efficiency time weighted average at 15 microns.

Donaldson filters protect under pressure

Donaldson filters maintain their efficiency and actually perform better as the pressure differential increases. Our high-efficiency P559000 and DBL7900 filters are the most efficient – providing critical engine protection during cold weather start-ups.

The competitor's lube filters become less efficient as the filter restriction increases. Under pressure, their stacked disc media only allows a portion of the flow to pass through the high-efficiency stage – which means more contaminant can pass on to the engine.

Donaldson has manufactured millions of lube filters for ISX engines – with billions of miles traveled – that have outperformed customer expectations.



MAKING MAINTENANCE EASIER – Donaldson Has You Covered

You need effective filtration to keep your fleets in operation and you want complete engine liquid coverage from one trusted supplier.

The same filtration technology and expertise you've come to expect from Donaldson is built in every liquid filter we design and manufacture. Donaldson's line of fuel, lube and coolant filters for ISX engines is designed to meet the needs of the application while delivering cleaner fluids to your engine components and making your overall vehicle maintenance easier.



Donaldson Aftermarket Filter Warranty

YOU HAVE A CHOICE







You can always choose top-quality Donaldson filters designed specifically for your engines and equipment and – as long as you change them according to the engine manufacturer's recommendations – using Donaldson filters **will not** void your engine manufacturer's warranty.

See Brochure F110064 for complete warranty details on all Donaldson products.
www.donaldson.com/en/engine/support/datalibrary/000194.pdf



Donaldson Filtration Products for Cummins® ISX Engines



| Donaldson Part No. | Cummins | Fleetguard |
|---|---------|------------|
| Primary Fuel Filtration | | |
|  P552203 • Efficiency: 95% @ 140µm | 4010476 | FF2203 |
| Secondary Fuel Filtration | | |
|  DBF5811 (15.0L) 2010 Engines and Newer • Efficiency: 99% @ 4µm | N/A | FF5811 |
|  DBF6776 (11.9L) 2010 Engines and Newer • Efficiency: 99% @ 4µm | N/A | N/A |
|  P555686 (15.0L) 2010 Engines and Newer • Efficiency: 99% @ 5µm | 3685306 | FF5686 |
|  P555776 (11.9L) 2010 Engines and Newer • Efficiency: 99% @ 5µm | 2893612 | FF5776 |
|  P552200 Pre-2010 Engines • Efficiency: 99% @ 8µm | 4088272 | FF2200 |
| Lube Filtration | | |
|  P550949 OEM Efficiency • Efficiency: >99% @ 30µm | 2882674 | LF9080 |
|  P559000 High Efficiency • Efficiency: 99% @ 15µm | | |
|  DBL7900 High Efficiency, Long-Life Seals • Efficiency: 99% @ 15µm | 4906633 | LF9031 |
| Coolant Filtration | | |
|  P550866 SCA+ 8 Units • Efficiency: 99% @ 50µm | 4907485 | WF2126 |
|  P550867 Non-chemical • Efficiency: 99% @ 50µm | 3680434 | WF2127 |



Finding your Donaldson filter online has never been easier.

catalog.donaldson.com

Cross Reference/Application/Attribute Search

You told us what you need – and we listened. We've built the ALL NEW **Donaldson DYNAMIC™ Search** to make finding your filter MUCH easier... faster...smarter...MORE flexible...powerful...DYNAMIC!



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