

MANN-FILTER Product Training

MANN-FILTER Product Training

Agenda

1. MANN+HUMMEL Company Overview

- 1.1 OE Business
- 1.2 AA business

2. Basics of Filtration

- 2.1 Why do we use filters?
- 2.2 Filtration Triangle
- 2.3 4 Main Types of Filters

3. MANN-FILTER Products in Details

- 3.1 Nomenclatures
- 3.2 How it works
- 3.3 Features and Benefits & OE Examples

4. Online Catalogue – how to use

5. FAQ

1

MANN + HUMMEL

COMPANY OVERVIEW



**MANN
FILTER**

MANN+HUMMEL

Leadership in Filtration

Filtration

We separate the **useful**
from the **harmful**



Cleaner Mobility



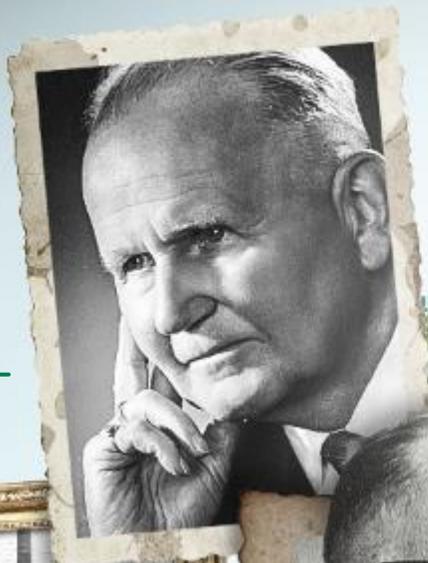
Cleaner Air



Cleaner Water

MANN + HUMMEL

1941



1,200 engineers worldwide
2,500 patent applications
Innovator active patent applicant



up to today



4 billion euros in revenue
26 filters per second
73,000 different products

State of the business

Our key financials

2019 Figures

153_{mEUR}

EBIT

3.6%

EBIT Margin

6.9%

ROCE

387_{mEUR}

EBITDA

9.2%

EBITDA Margin

134_{mEUR}

Investment in R&D

Exceptional quality
Global research and
development
network

60+

Partnerships with
Universities

1,100+

Research and
Development
Employees Worldwide

1,400+

Current Customer
Projects

30+

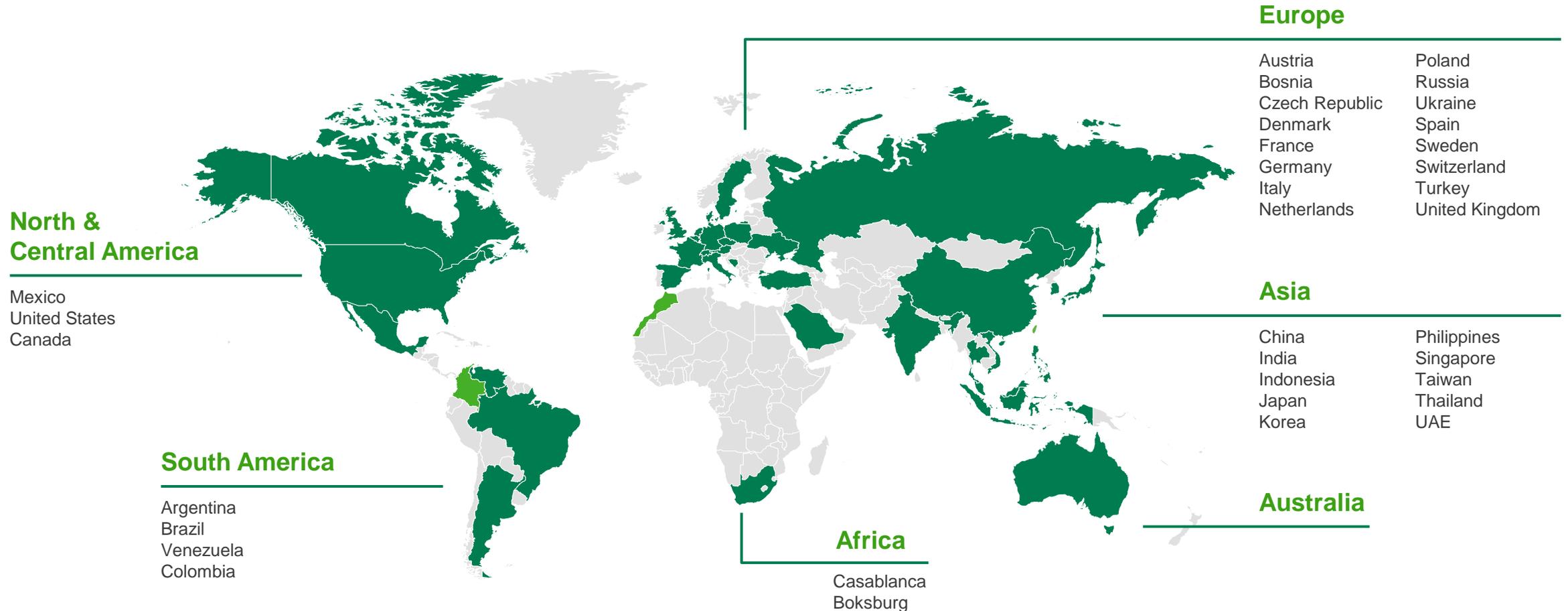
R&D Locations

150+

Patent Applications
Annually

MANN+HUMMEL worldwide

Global presence at more than 80 locations



Insight in the production

Worldwide biggest filter production plant in Marklkofen



https://www.youtube.com/watch?v=RUX758X2674&list=PLCkwPwPV_g-TcS7ipej4FtJZDXz6uUkGF&index=3 -



1.1

MANN + HUMMEL

COMPANY OVERVIEW
ORIGINAL EQUIPMENT

Original Equipment Segments

Passenger Car



Heavy Duty & Industrial

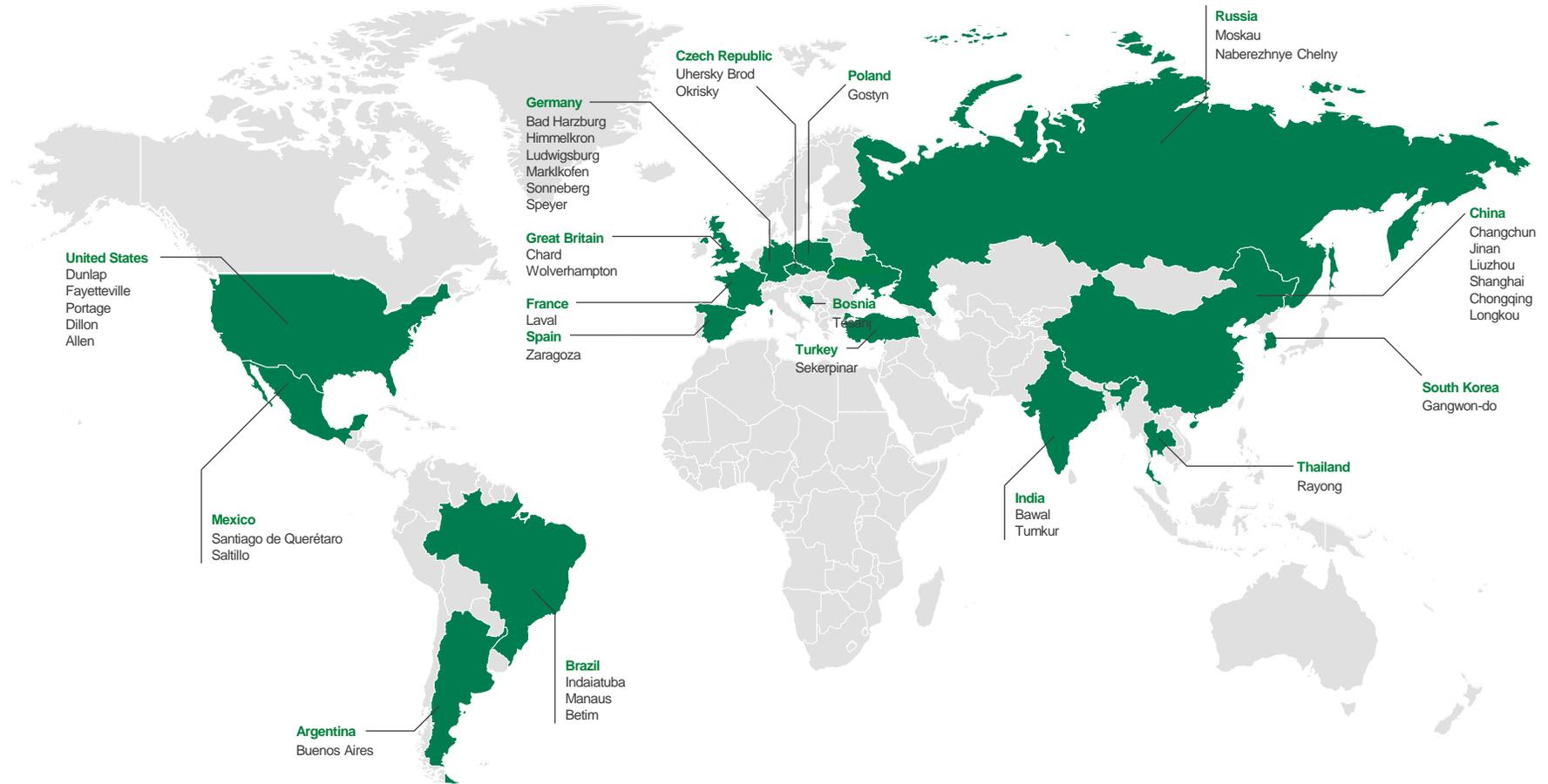
On-Road



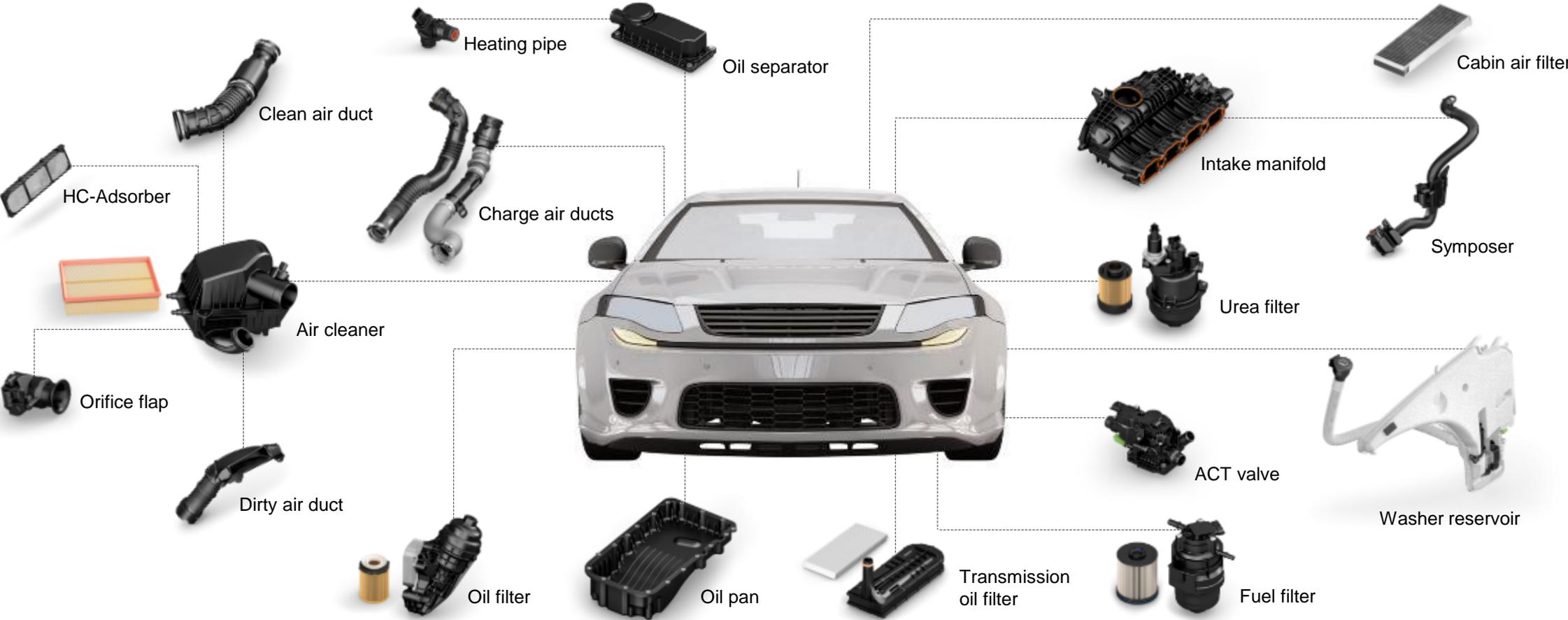
Off-Road



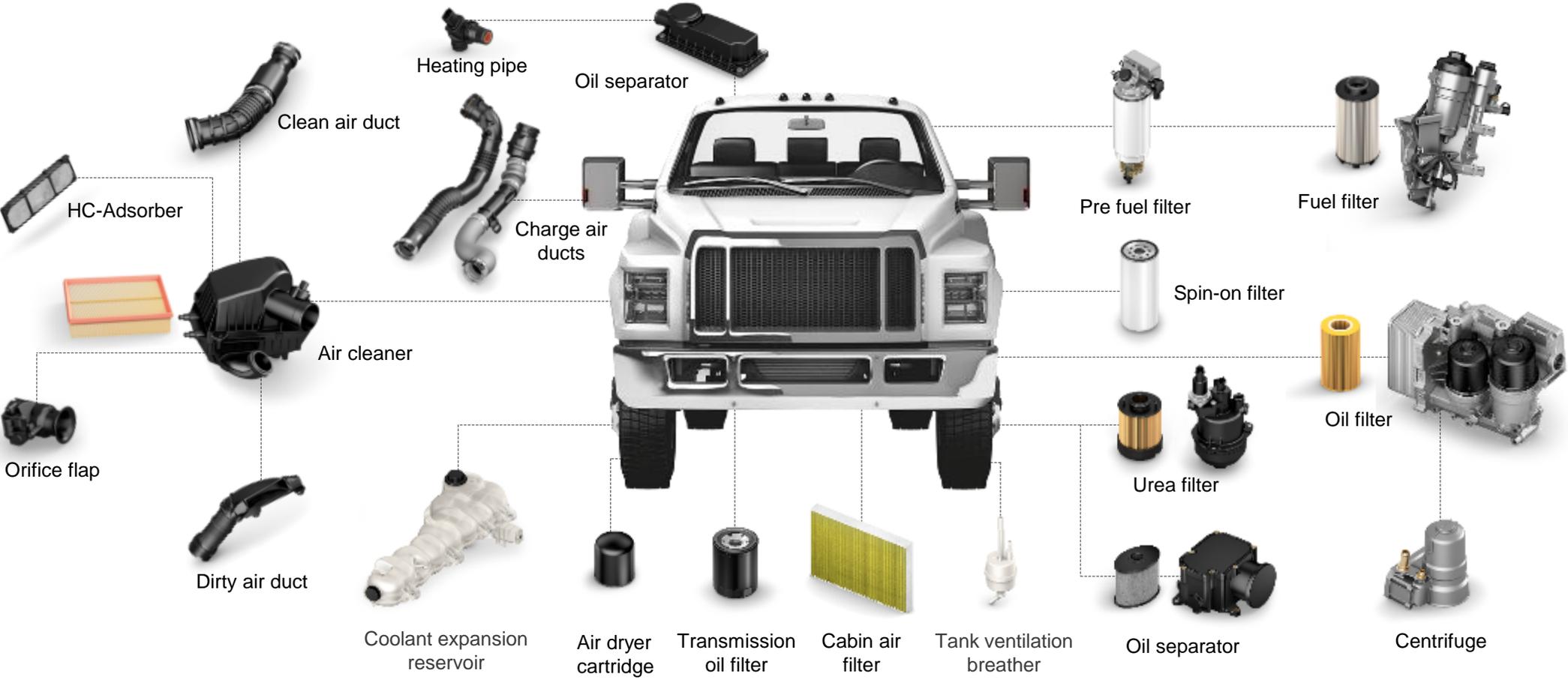
Original Equipment Production Footprint



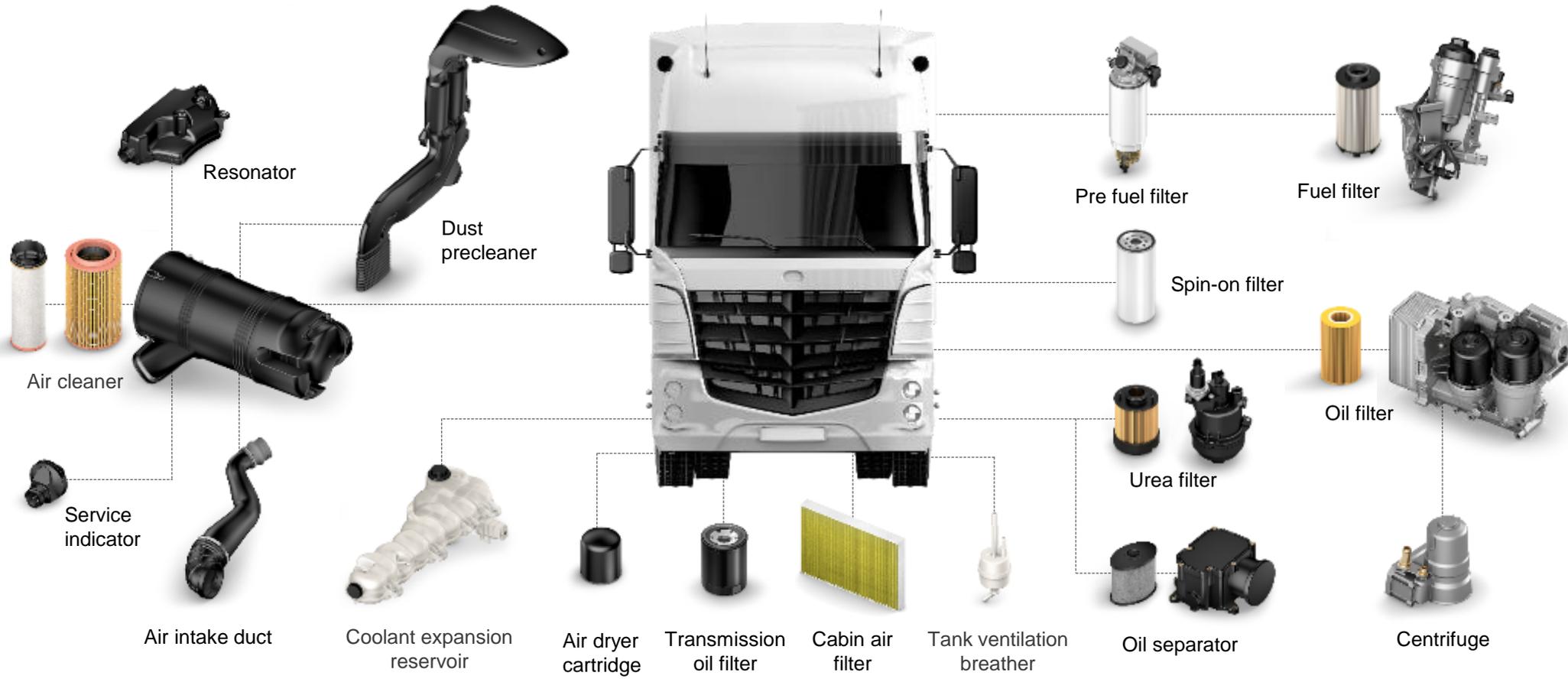
Original Equipment Product Portfolio for Passenger Cars



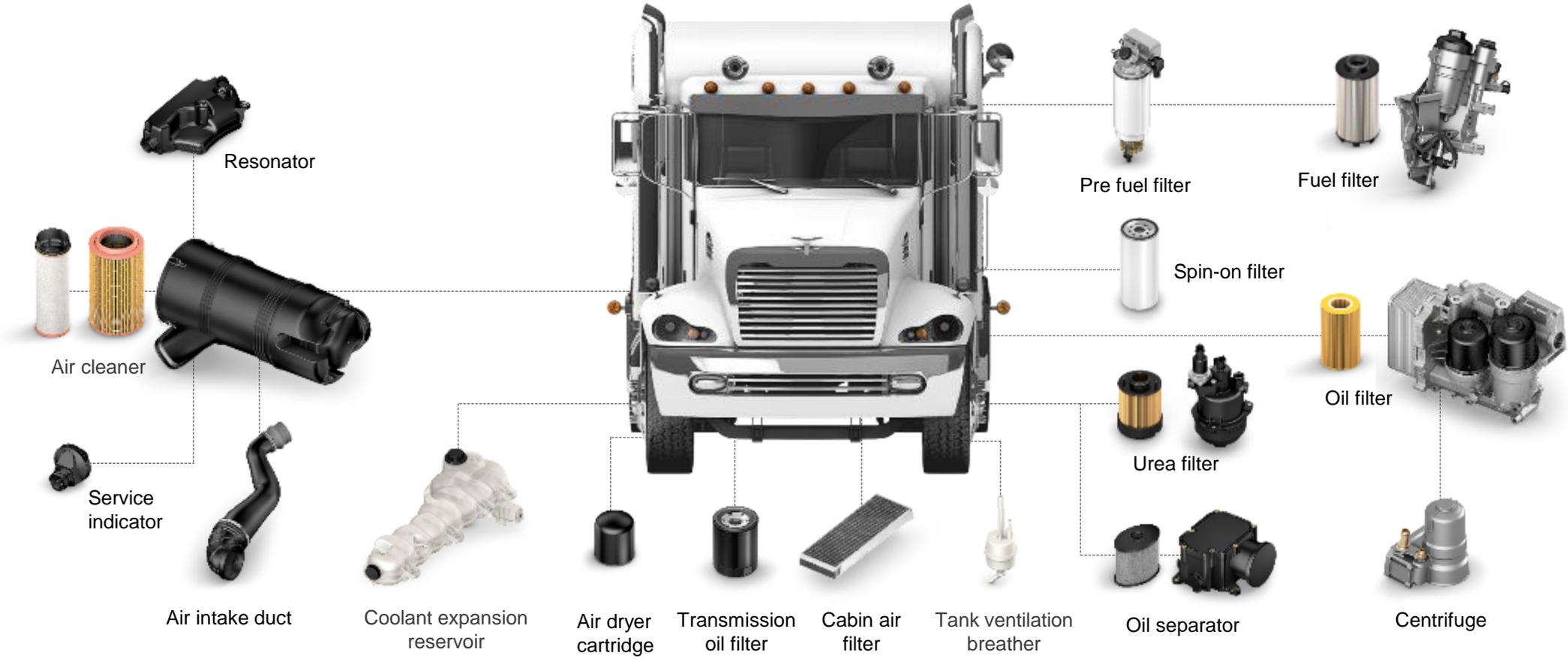
Original Equipment Product Portfolio for Pickups



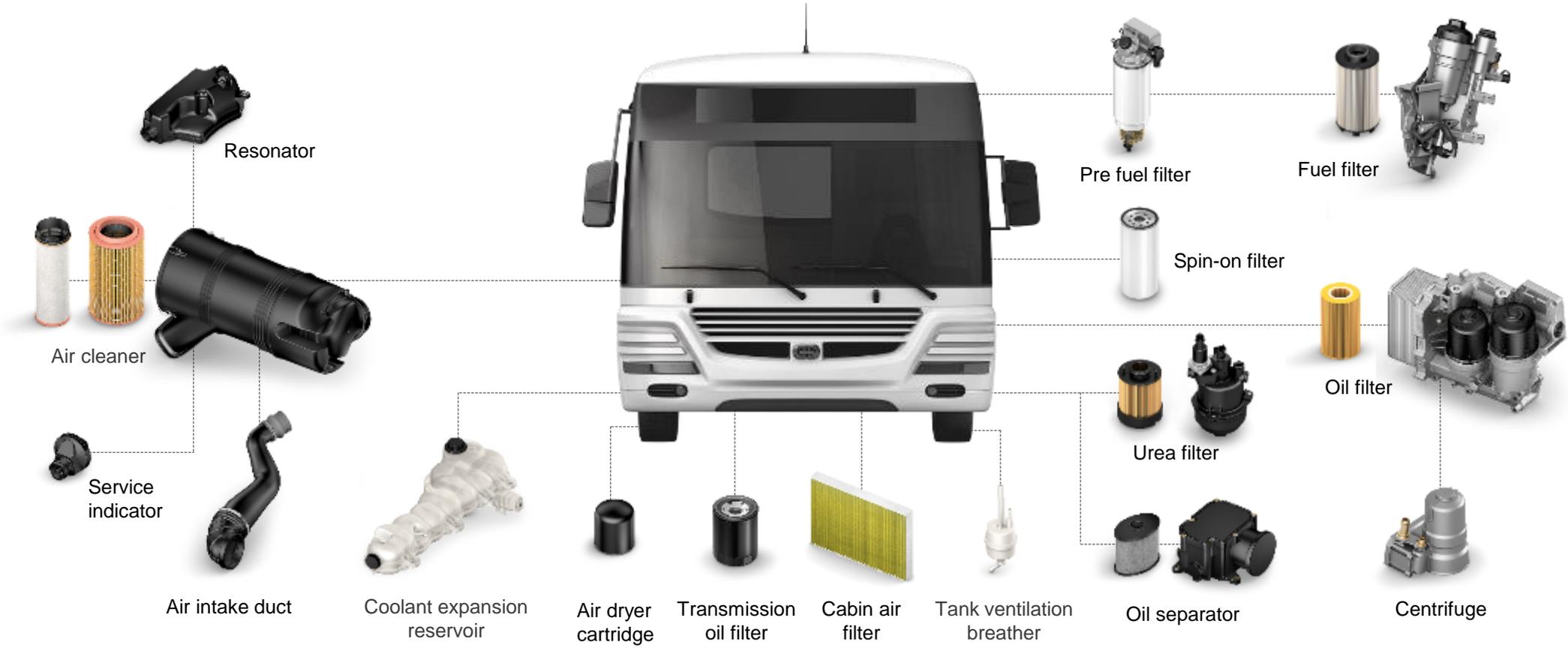
Original Equipment Product Portfolio for Trucks



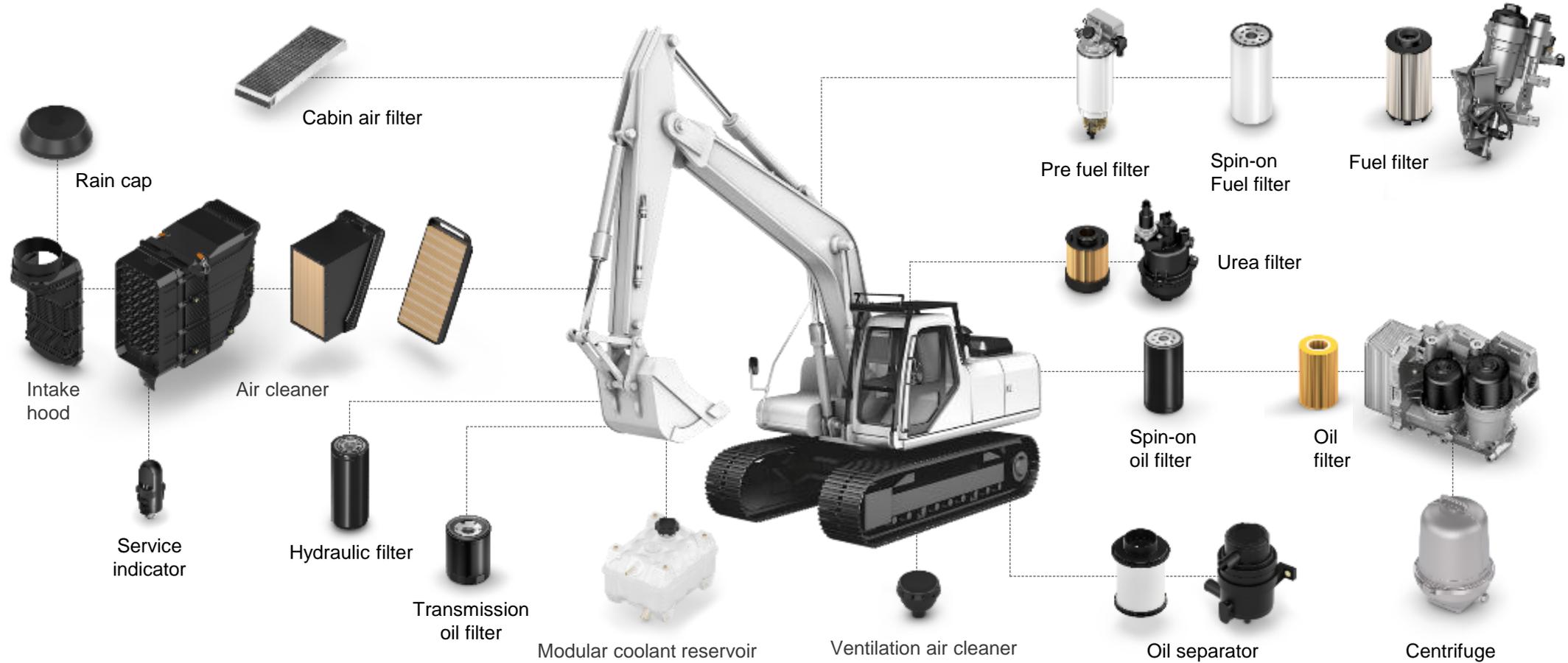
Original Equipment Product Portfolio for US Trucks



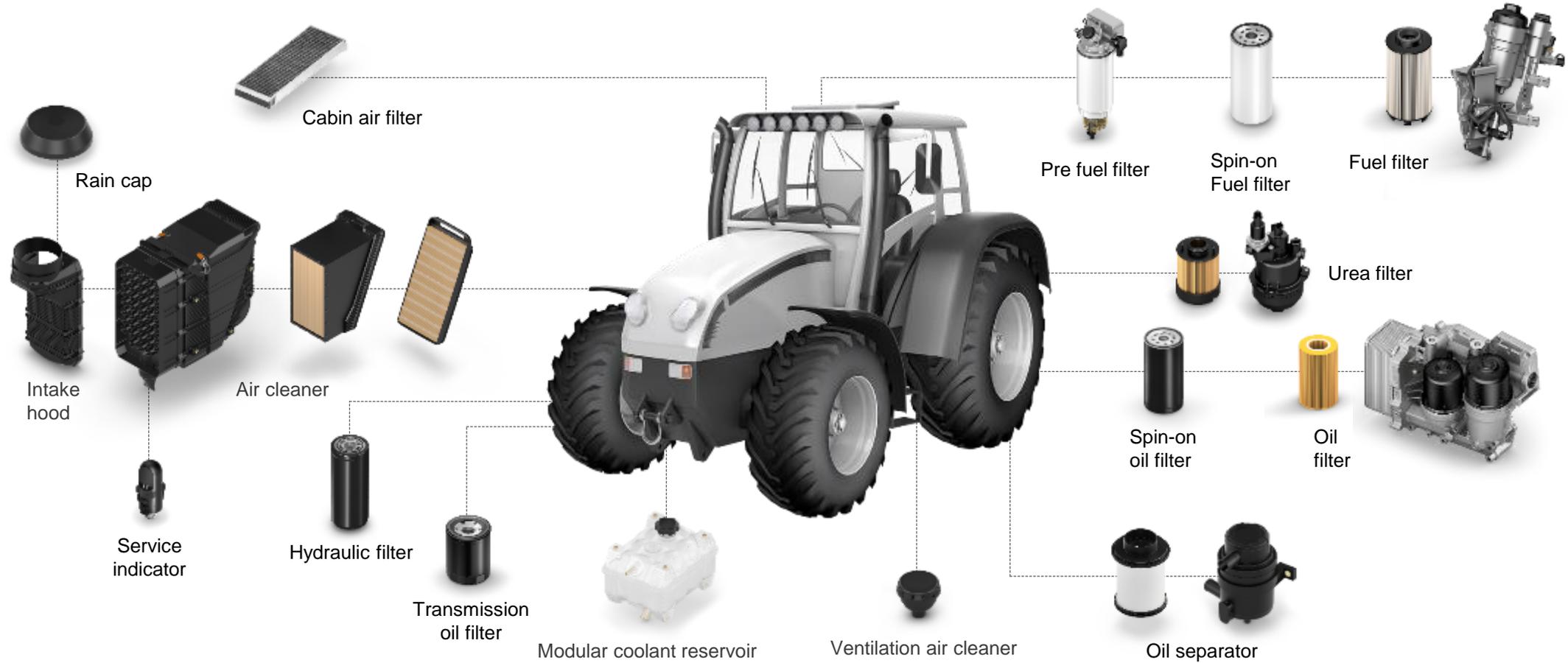
Original Equipment Product Portfolio for Buses



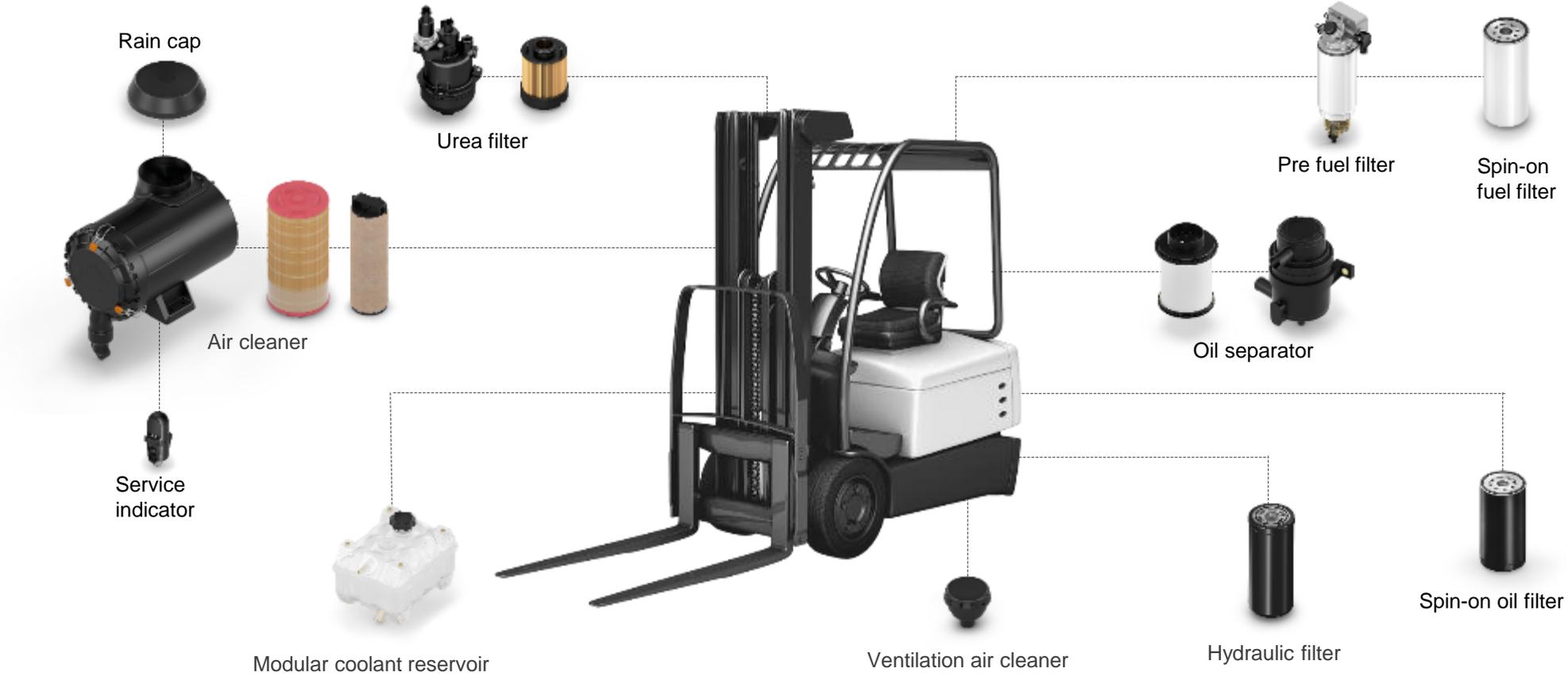
Original Equipment Product Portfolio for Construction Machines



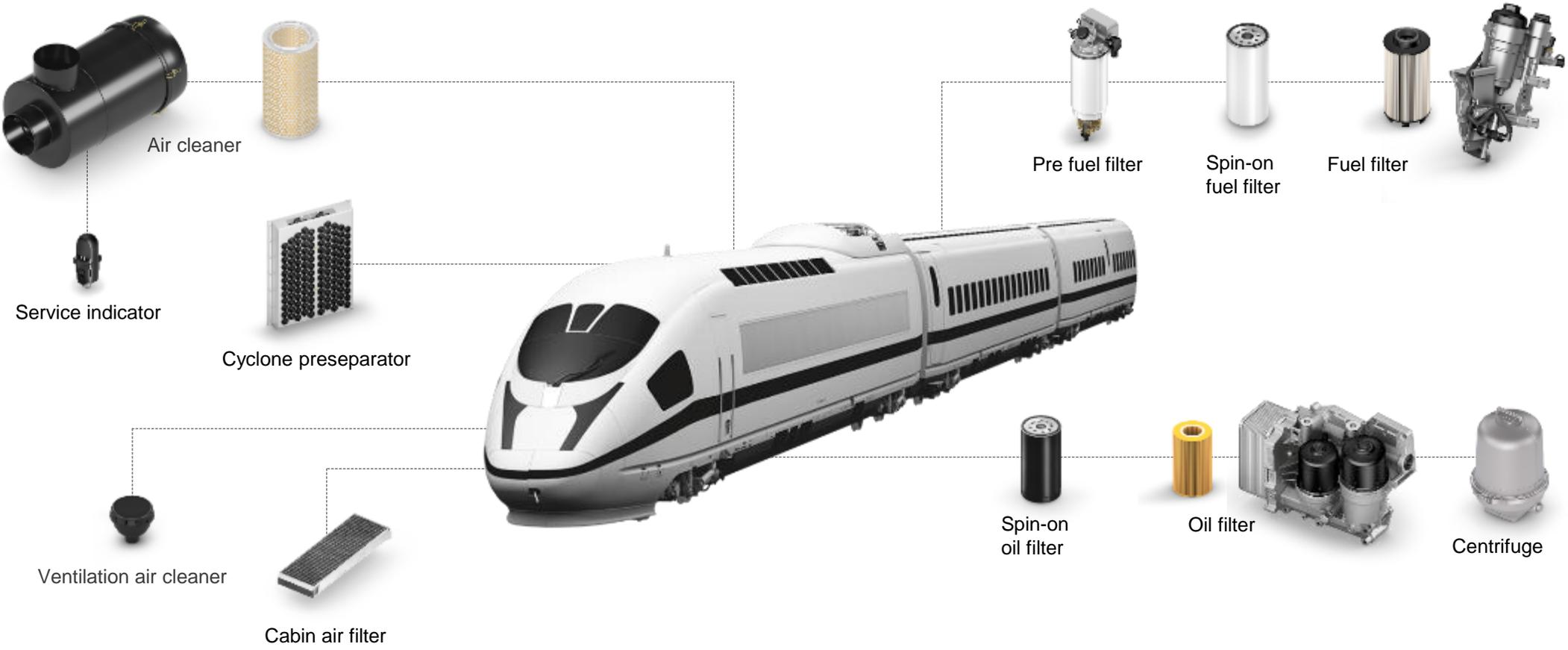
Original Equipment Product Portfolio for Agriculture Machines



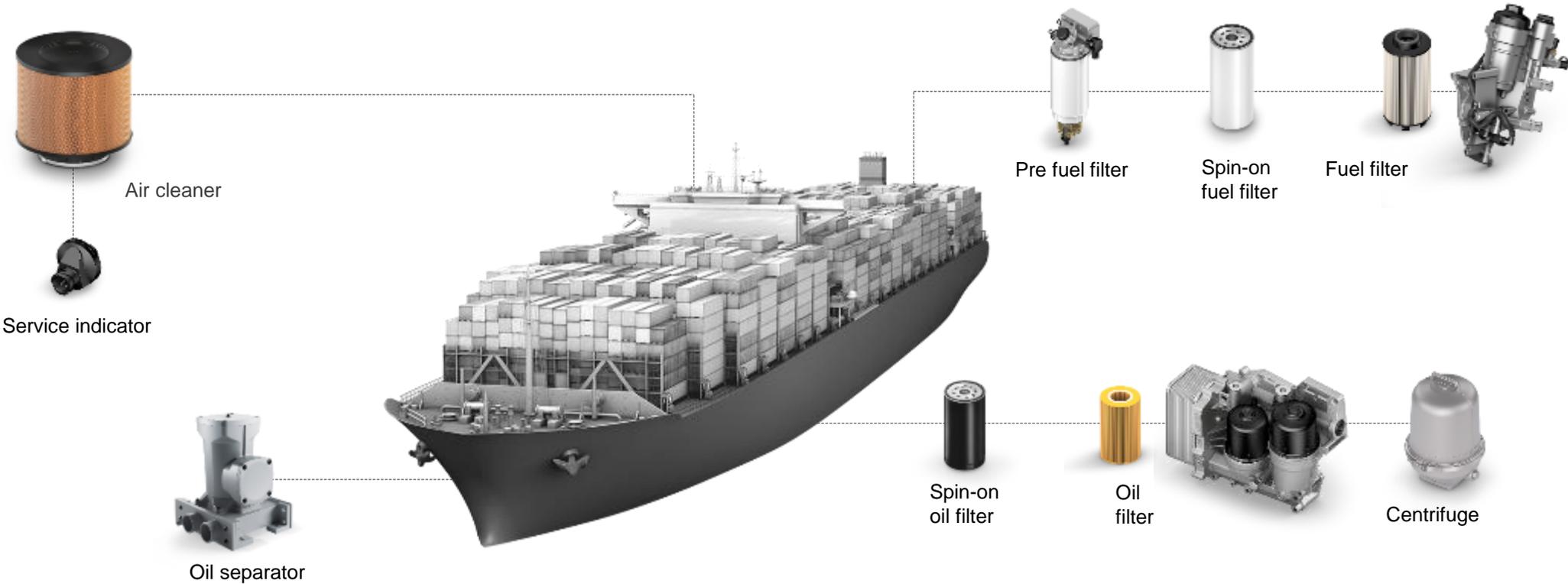
Original Equipment Product Portfolio for Material Handling



Original Equipment Product Portfolio for Railway



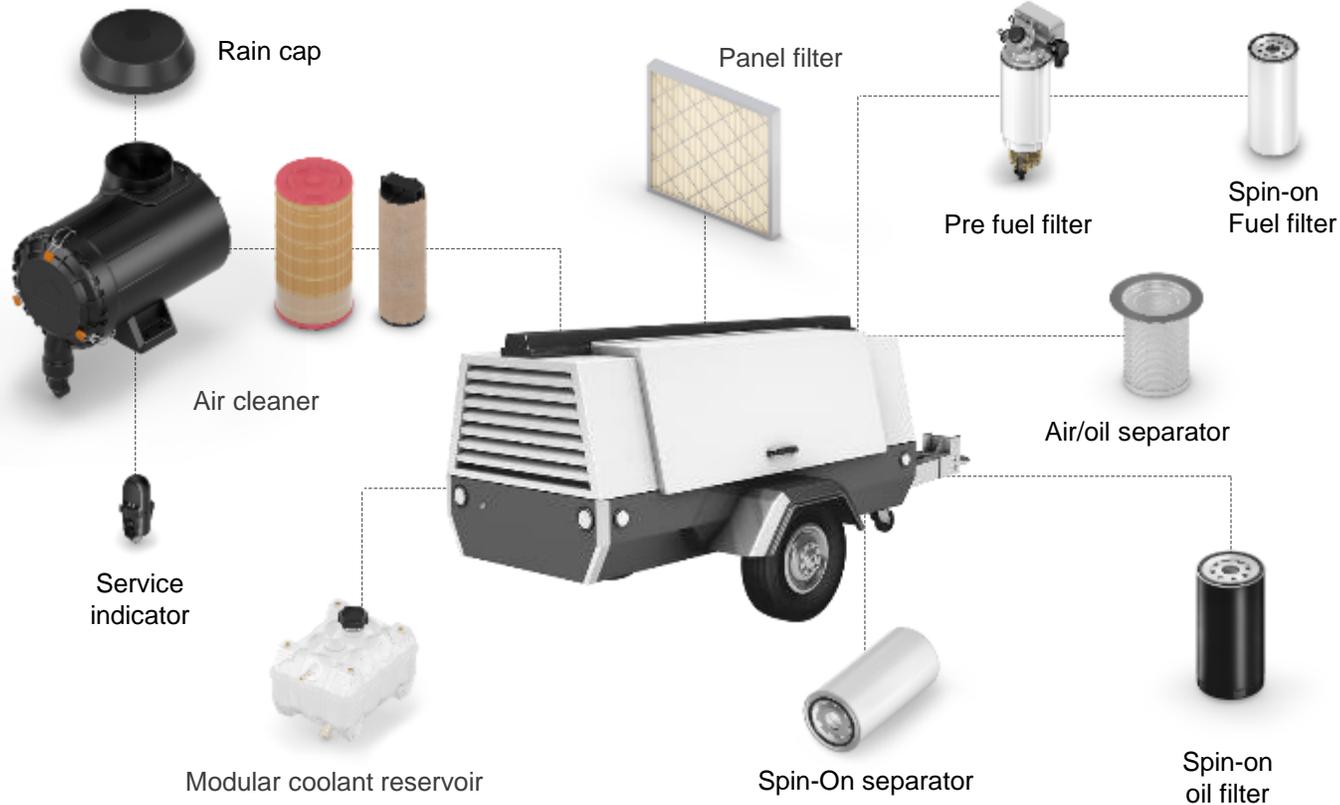
Original Equipment Product Portfolio for Marine



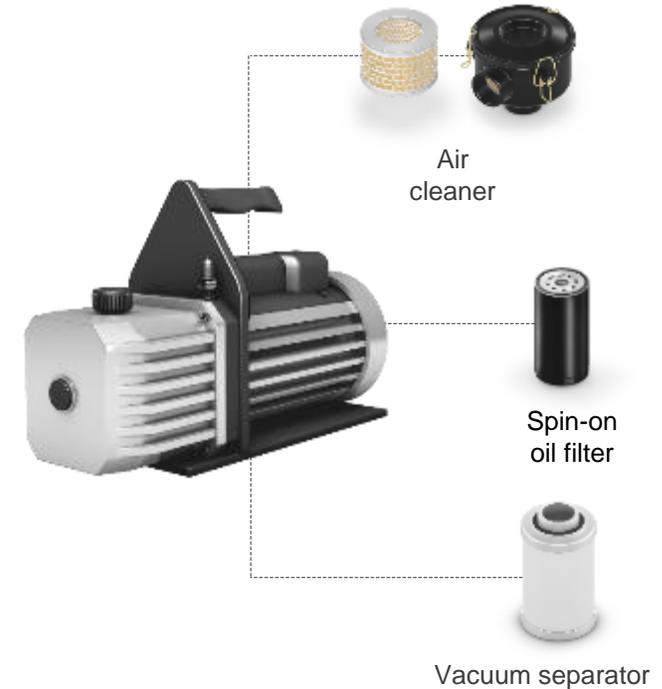
Original Equipment

Product Portfolio for Compressors und Vacuum pumps

Mobile/stationary compressors



Vacuum pumps



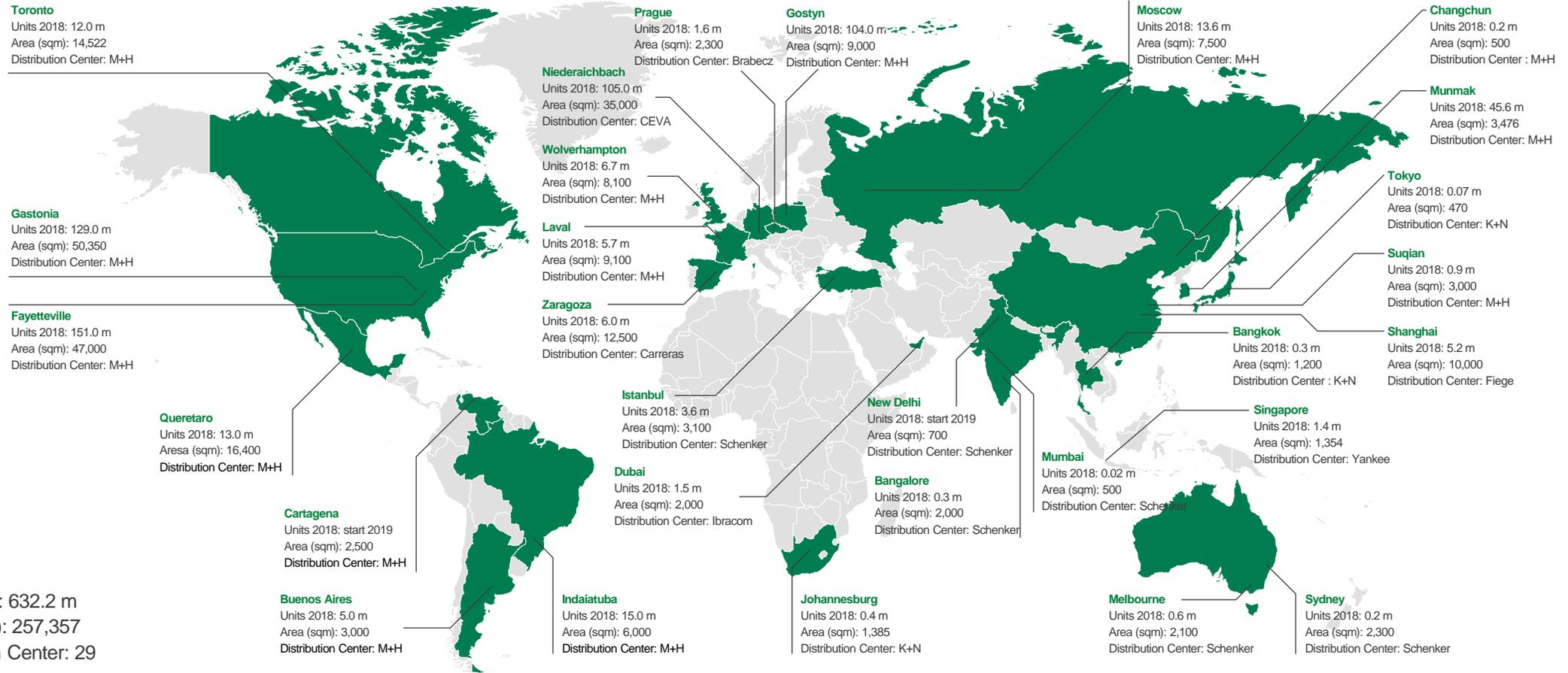
1.2

MANN + HUMMEL

COMPANY OVERVIEW
AUTOMOTIVE AFTERMARKET

Automotive Aftermarket

Global Aftermarket Distribution Center Network

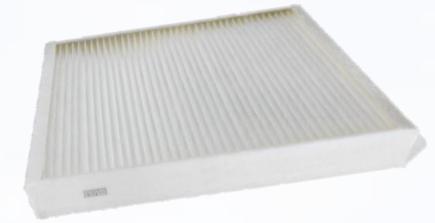


World
 Units 2018: 632.2 m
 Area (sqm): 257,357
 Distribution Center: 29



Automotive Aftermarket Drive Product Innovation with Cabin Air Filters

Particle Filter



1990

Combi Filter



1998

Fine Dust
(PM2.5 Filter)



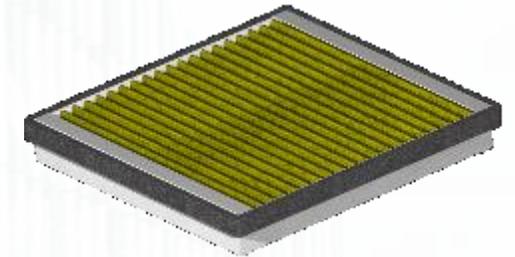
2012

Antiallergen/
Biofunctional



2015

Nanofiber Filter
HEPA Quality



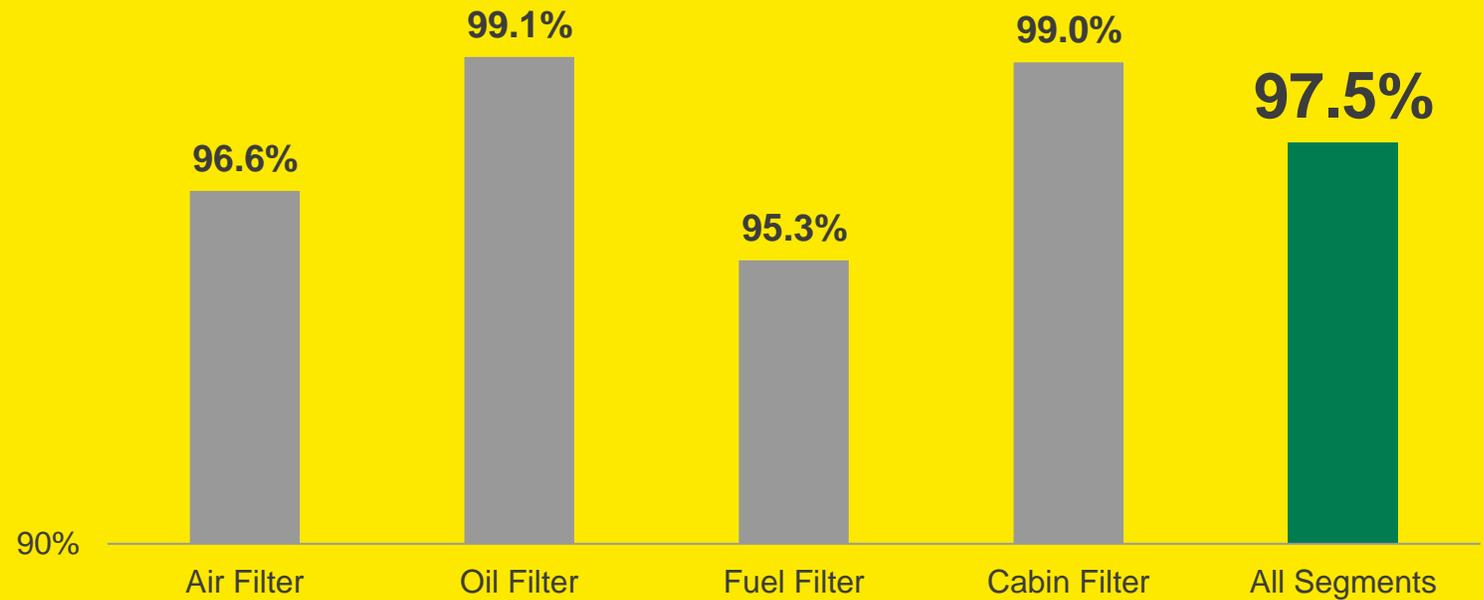
2019

Automotive Aftermarket Global Coverage – MANN FILTER

**MANN
FILTER**



MANN-FILTER – Perfect parts. Perfect service.



Automotive Aftermarket Distribution Channels

OEM



OES



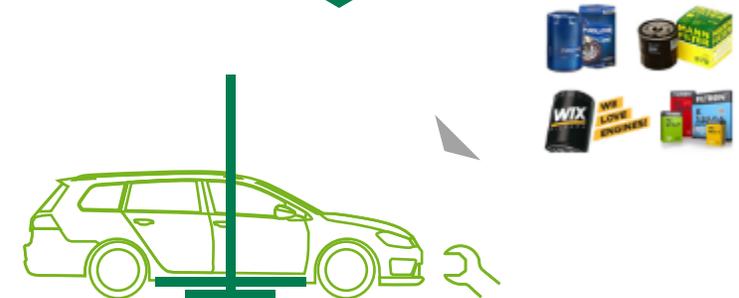
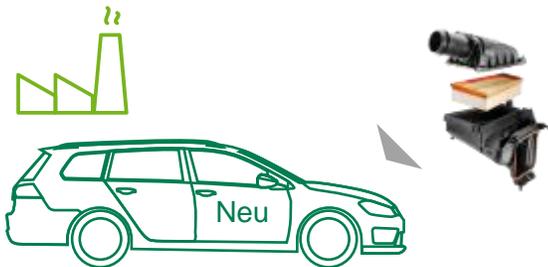
IAM



Production of the vehicle manufacturer

Vehicle Manufacturer Organization for parts distribution

Independent wholesalers



2

BASICS OF FILTRATION



2.1

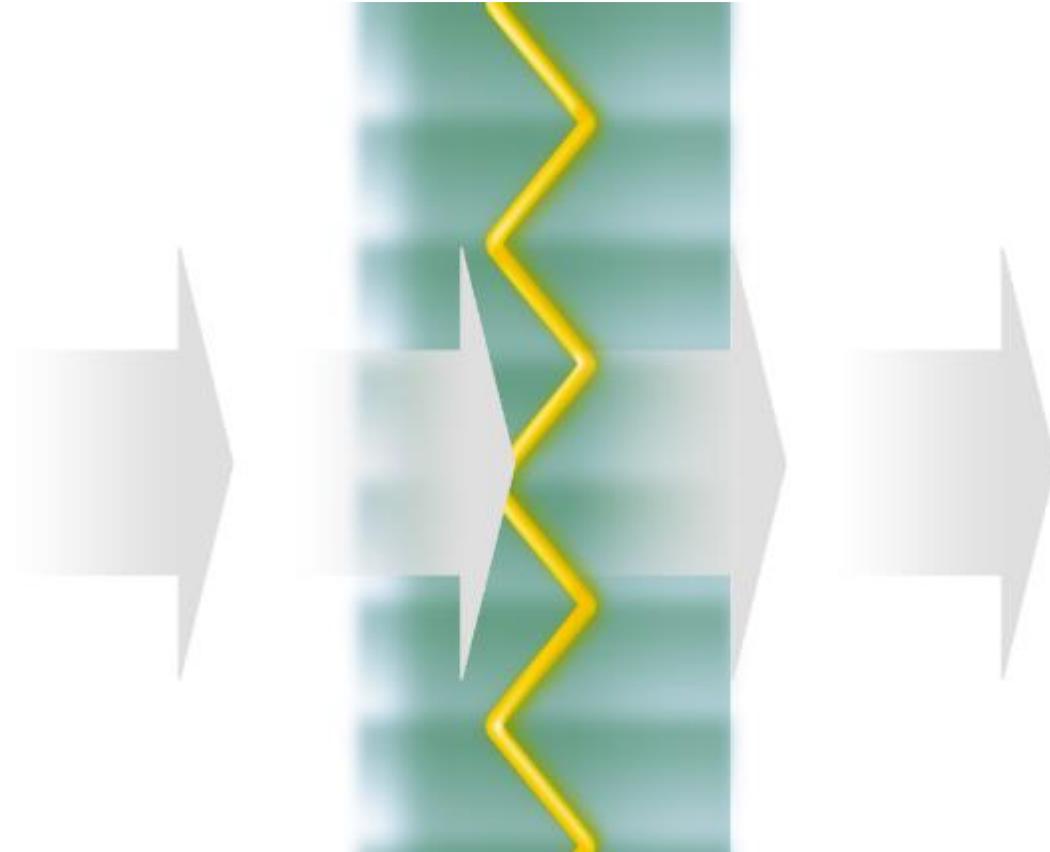
BASICS OF FILTRATION

WHY DO WE USE FILTER?



Basics of Filtration

What is Filter?



filter
/'fɪltə/

noun

a porous device for removing impurities (solid/liquid/gas) from a fluid (liquid or gas) passed through it.

verb

pass (a liquid, gas, light, or sound) through a device to remove unwanted material.

Basics of Filtration

Objectives of automotive filtration

Filtration

We separate the **useful**
from the **harmful**

1. **Particle separation**  from air, oil, fuel, water
2. **Separation of water droplets**  from diesel fuel
3. **Separation of oil droplets**  from blow-by gas
4. **Gas cleaning**  from cabin air
5. **Air drying**  from brakes

2.2

BASICS OF FILTRATION

FILTRATION TRIANGLE

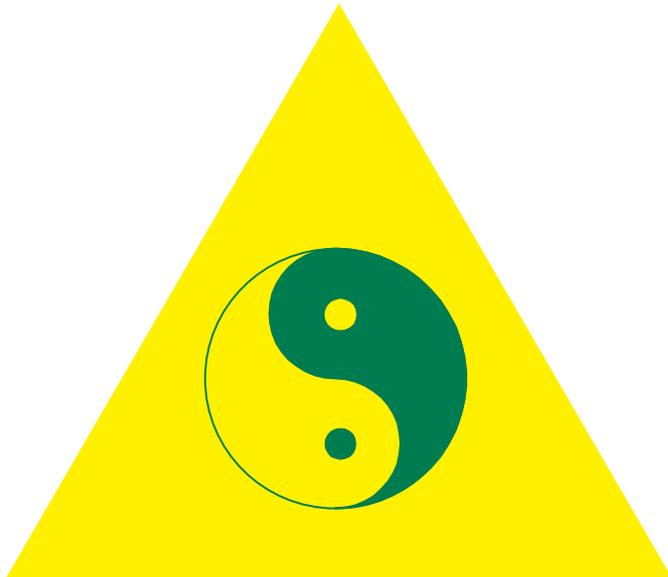


Basics of Filtration

Filtration Triangle

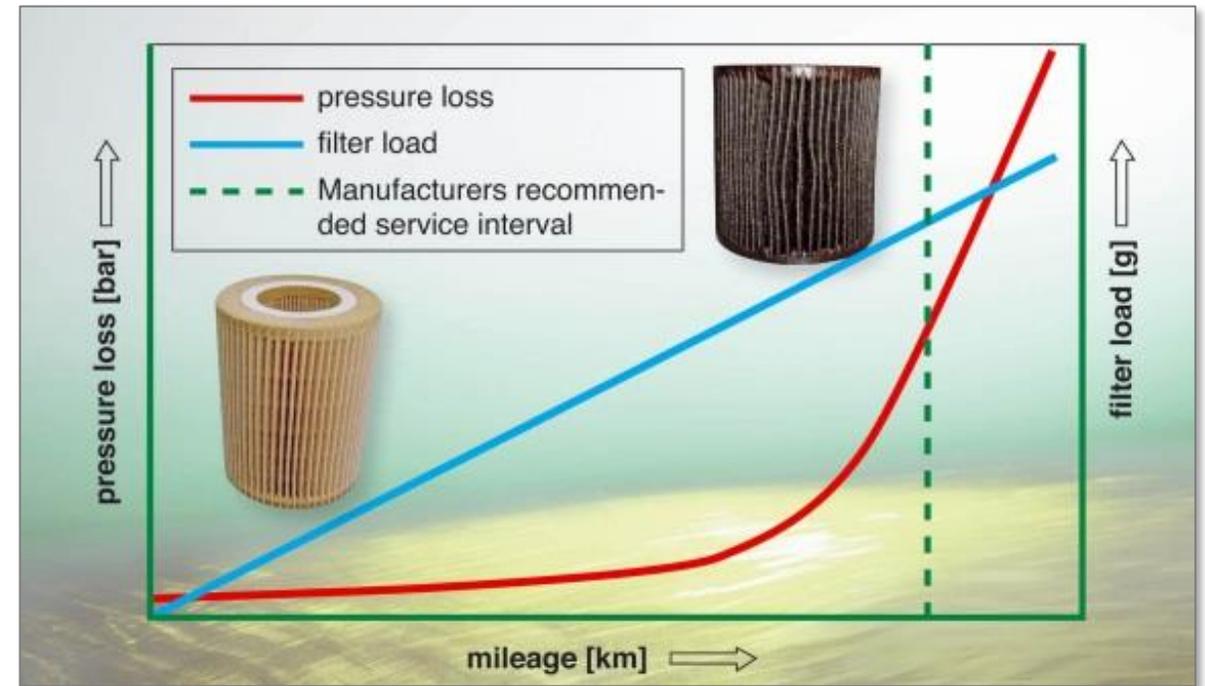
Pressure Drop (mbar)

Δp = pressure loss
(flow rate)



Efficiency η (%)
filter fineness
(particle carry over)

Capacity (g/m²)
dust holding capacity
(replacement interval)



MANN-FILTER meet all requirements with:

- (1) optimized practice orientated replacement interval
- (2) optimized pressure loss at hot and cold conditions
- (3) optimized initial and final filtration efficiency

Key to Filtration

Balance between Pressure drop, Efficiency, and Capacity

2.3

BASICS OF FILTRATION

4 MAIN TYPES OF FILTERS



Basics of Filtration

4 Main Types of Filters



Oil Filter

1. Oil Enters the filter through a set of holes in the filter base.
2. Oil flows Through the filter media.
3. The media traps particles from oil.
4. Filtered oil enters the engine and flows through the system.



Air Filter

1. Air Enters the filter through air intake.
2. Air flows Through the filter media.
3. The media traps particles from air
4. Filtered air enters the intake manifold to supply a clean fuel/air mixture to the cylinders.



Fuel Filter

1. Fuel may pick up dirt and other particles in gas tank before it is passed down the fuel rail.
2. Fuel flows Through the filter media.
3. The media traps particles and water, preventing them from reaching the components of the engine.
4. Filtered fuel enters cylinders for combustion.



Cabin Air Filter

1. Fresh air is routed to the HVAC System
2. Contaminated air flows Through the filter media.
3. The media traps dirt, allergens and other irritants/pollutants.
4. Clean, healthy air enter vehicle or equipment cabin

3

MANN-FILTER PRODUCTS IN DETAILS



MANN-FILTER Products in details

Quality is not a coincidence

Production and quality assurance at every production site follow the same defined and audited guidelines

- All manufacturing processes and production lines are subject to strict conditions which are regularly checked
- Equipment is released by independent quality auditors prior to start of production
- Qualified staff and standardised management help us to achieve our important objective



Whether from Germany, Spain, Brazil or China, MANN-FILTER stands for first-class quality



3.1

NOMENCLATURES



MANN-FILTER Products in Details

Nomenclatures - Overview



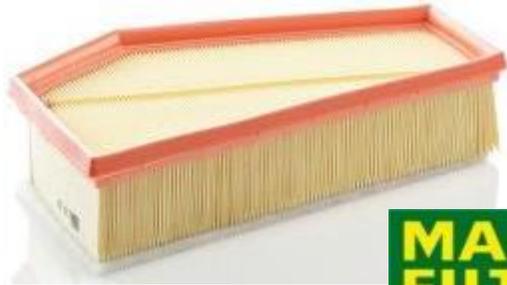
Overview from A to Z

Part number prefix explanation

BF	Felt fuel filter element	MWK	Fuel filter for motorcycles
BFU	Metal-free felt fuel filter element	P	Fuel filter element
BL	Bowl assembly	PL	Spin-on fuel filter for PreLine-system
C	Air filter element	PU	Metal-free fuel filter element
CF	Secondary air filter element	PF	By-pass oil filter element
CP	CompacPlus air filter element	PFU	Metal-free by-pass oil filter element
CS	Air filter element (filter material foamed plastic)	SP	Service pack
CU	Cabin filter element	TB	Air drying box for air braking systems
CUK	Cabin filter element with activated carbon	U	Urea filter
DH	Diesel heater	W	Spin-on lubricating oil filter
Di	Gasket	WA	Cooling liquid filter
FP	Biofunctional cabin filter	WD	Spin-on oil filter for higher pressures
H	Oil filter element	WDK	Spin-on fuel filter for higher pressures
HU	Metal-free oil filter element	WH	Spin-on hydraulic oil filter
HD	Oil filter element for high pressure filters	WK	Spin-on fuel filter or inline filter
LB	Air oil separator box	WP	Spin-on oil filters for secondary flow or combined primary/secondary flow
LC	Element for crankcase ventilation	ZR	Rotor for oil centrifuge
LE	Air Oil Separator	-2	Set, comprising several identical or different filter types, e.g. C 3698-2
LS	Removal tool	...KIT	Product comprising filter element + non-filter installation part
LSK	Removal tool case	...n/v/x/y/z	Gasket enclosed
MH	Oil filter element for motorcycles		
MW	Spin-on oil filter for motorcycles		

MANN-FILTER Products in Details

MANN-FILTER air filters for cars and transporters



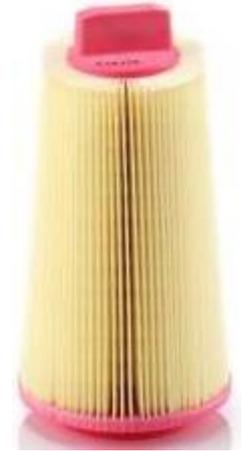
**MANN
FILTER**

C

Air filter element



Shapes and sizes to suit every application



MANN-FILTER Products in Details

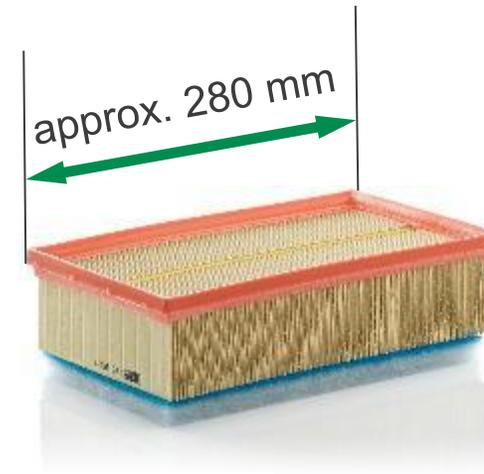
MANN-FILTER air filters for trucks and busses



Sales designation previous

Flat/rectangular air filters

- C 28** 160/1 Greatest length approx. 280 mm
- C 28 **160**/1 Characteristic for filter surface $160 \times 100 = 16\,000 \text{ cm}^2$
- C 28 160/1 Counting number for variant

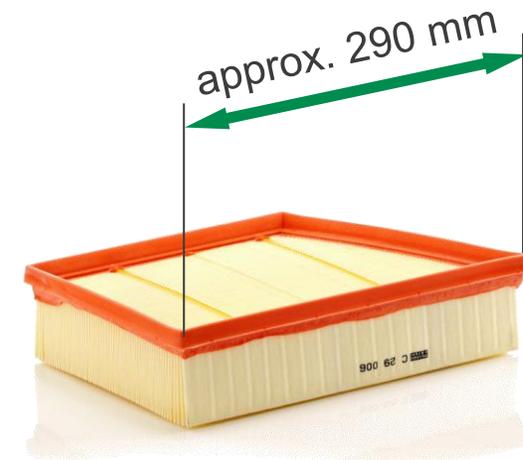


C 28 160/1

Sales designation current

Flat/rectangular air filters

C 29 006/1	Greatest length approx. 290 mm
C 29 006 /1	Sequential number
C 29 006/ 1	Amendment index 1 each modification to the original version is identified by a consecutive number



C 29 006/1

Sales designation current

Round air filters

- C 29** 010/1 Outside diameter approx. 290 mm
- C 29 **010**/1 Sequential number
- C 29 010/**1** Amendment index 1
each modification to the original version is identified by a consecutive number



MANN-FILTER Products in Details

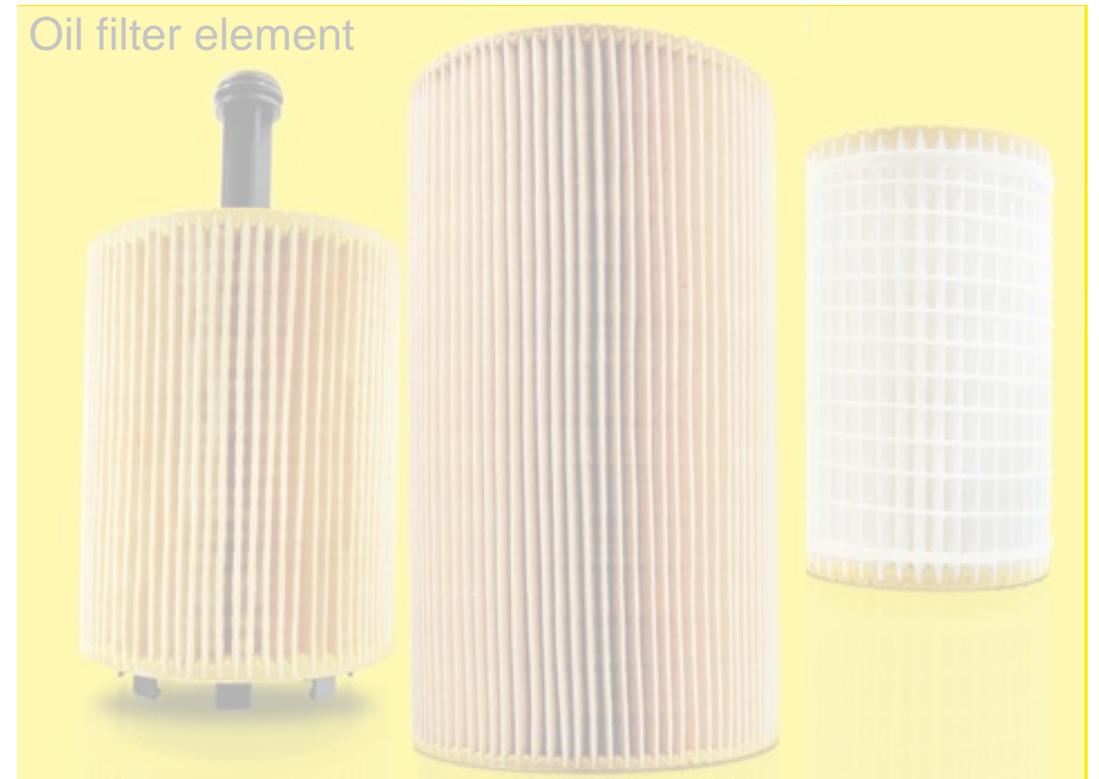
MANN-FILTER oil filters

Types of oil filters

Spin-on oil filter



Oil filter element



Sales designation previous

Spin-on filters

- W 712/95 Outside diameter approx. 70 mm
- W 712/95 Characteristic for filter surface $12 \times 100 = 1200 \text{ cm}^2$
- W 712/95 Counting number for variant



Sales designation current

Spin-on filters

- W 11** 020/1 Outside diameter approx. 110 mm
- W 11 **020**/1 Sequential number
- W 11 020/**1** Amendment index 1
each modification to the original version is identified by a consecutive number



MANN-FILTER Products in Details

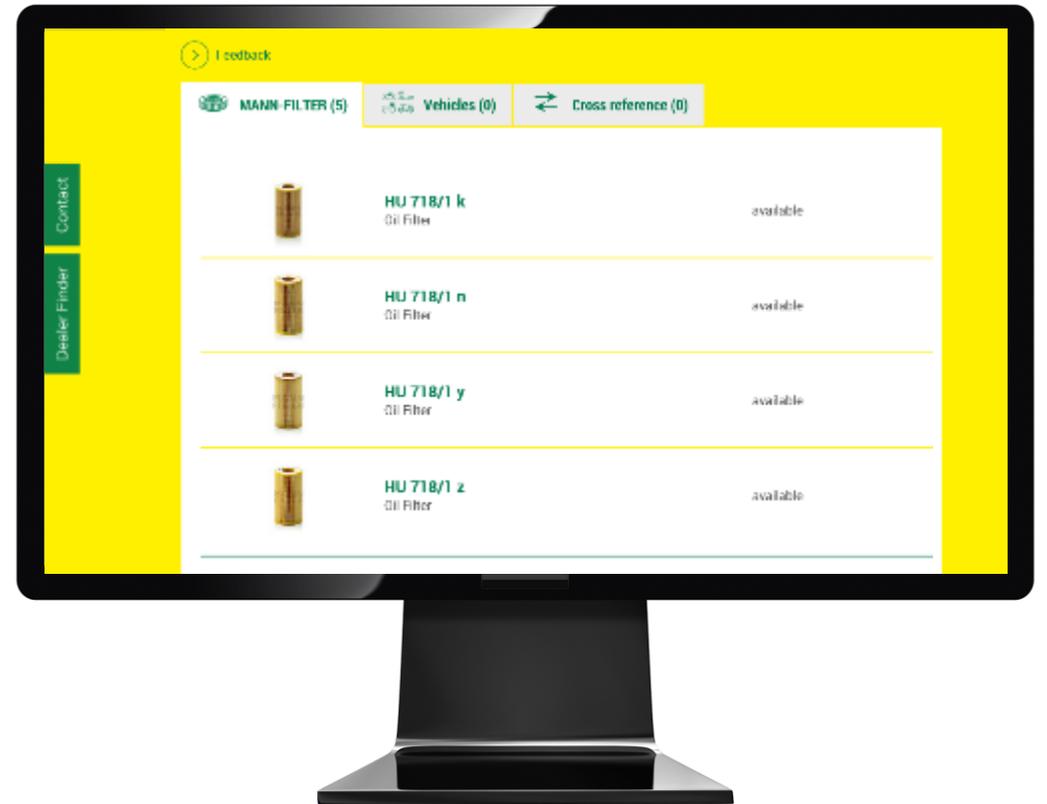
MANN-FILTER Oil filter

Types of oil filters



Sales label

Different gaskets included



Sales designation

KIT version

HU 6012 z **KIT** Identification letter for included gasket(s)

HU 6012 z **KIT** Identification letter for supplied accessories



HU 6012 z KIT

MANN-FILTER Products in Details

MANN-FILTER fuel filters

Types of fuel filters



**MANN
FILTER**

P

Fuel filter element
(with metal)



**MANN
FILTER**

PU

Fuel filter element
(metal-free)



**MANN
FILTER**

WK

Spin-on fuel filter



**MANN
FILTER**

WDK

Spin-on fuel filter
pressure stable



**MANN
FILTER**

PL

Spin-on filter for PreLine

**MANN
FILTER**

PreLine
Diesel Pre filter
+ water separator



MANN-FILTER Fuel filters

A revolution: excellent water separation



The power of 3 stages

- 1 Particle separation
- 2 Water drop coalescence
- 3 Water separation

PU 11 002



PU 11 002 z kit

PreLine: proven fuel prefilter technology protects the engine against ingress of water



Preline 150



Preline 150



Preline 270



Preline 420

MANN-FILTER Products in Details

MANN-FILTER cabin air filters

Types of cabin air filters



The image displays three types of MANN-FILTER cabin air filters against a yellow background. Each filter is shown from a perspective view, highlighting its pleated structure. Below each filter is a green and yellow MANN-FILTER logo, followed by a white box containing the model number and a brief description.

- Particle filters:** Model CU, described as a "Cabin air filter element".
- Combination filters:** Model CUK, described as a "Cabin air filter element with activated charcoal".
- Biofunctional filters:** Model FP, described as a "Cabin air filter element with biocide protective shield".

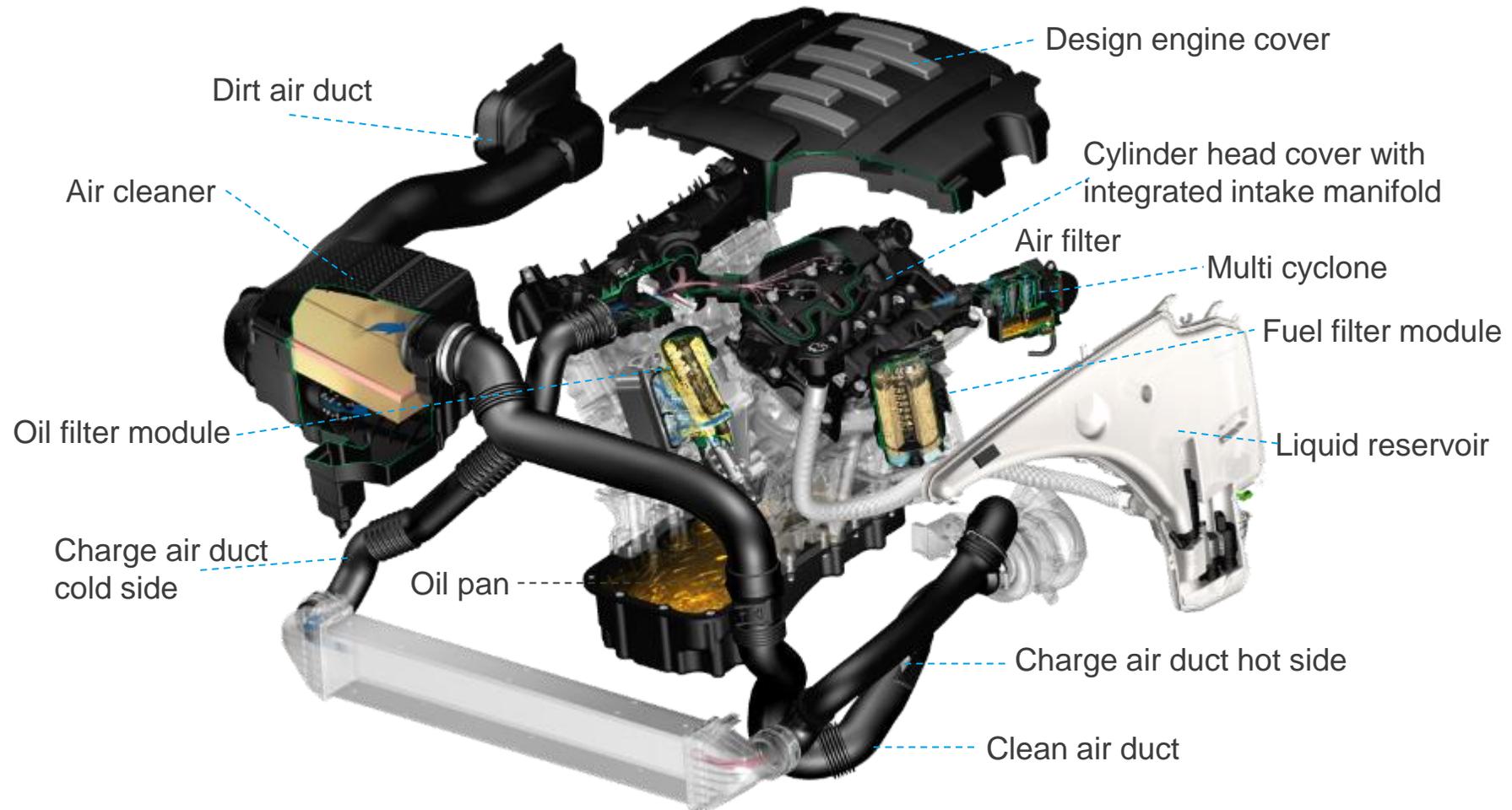
How It Works

Core Products Around The Engine

<https://www.youtube.com/watch?v=1AFI4Za4xq4&t=68s> -

How It Works

Core Products Around The Engine





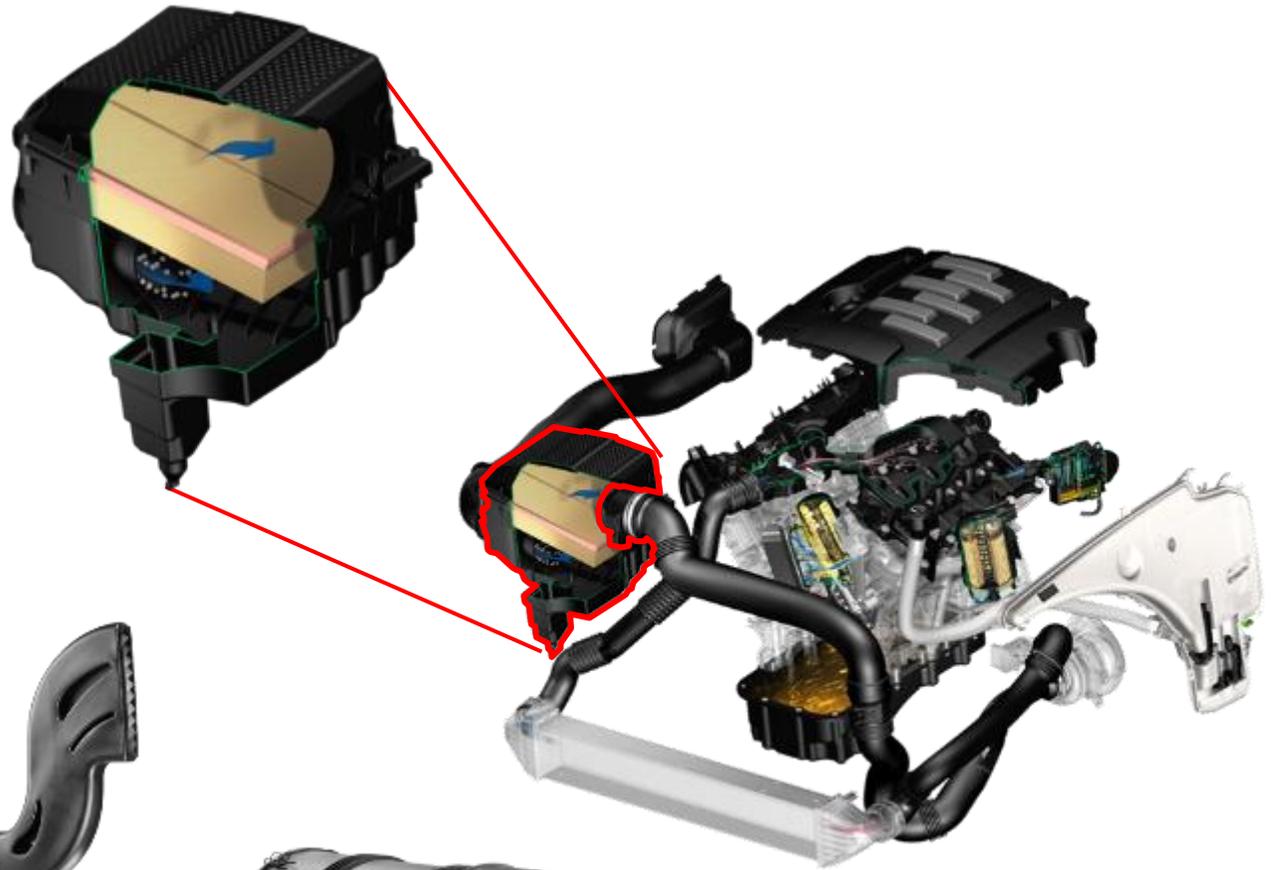
Air filters

How It Works

Air cleaner

Functions:

- air filtration
- bracket function
- sound design



Filter element



Compact air filter



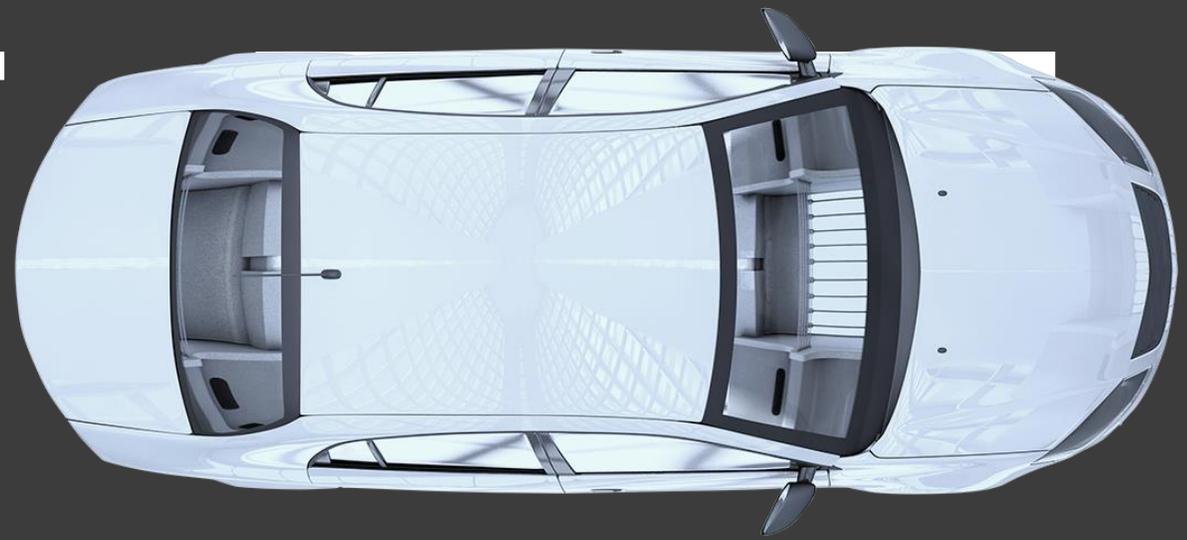
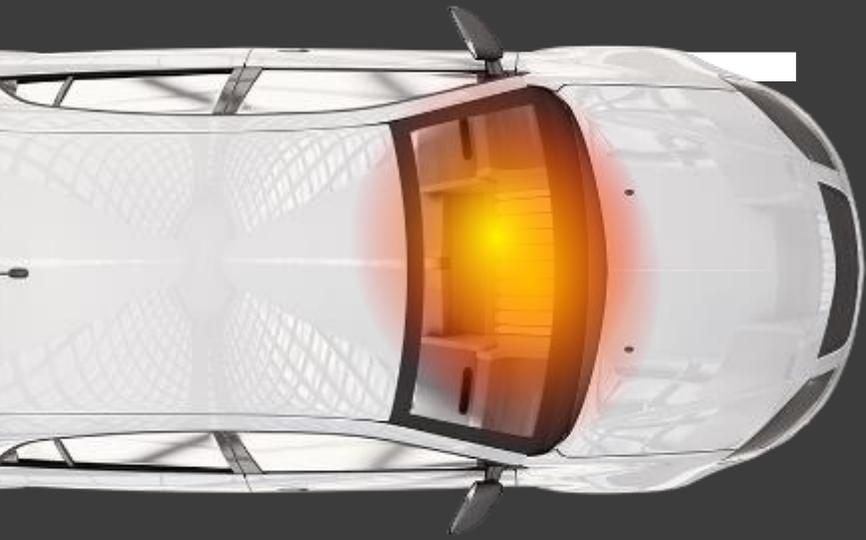
Air Duct System



Round Air Filter

Risk situation

Cigarette tossed from a car window.



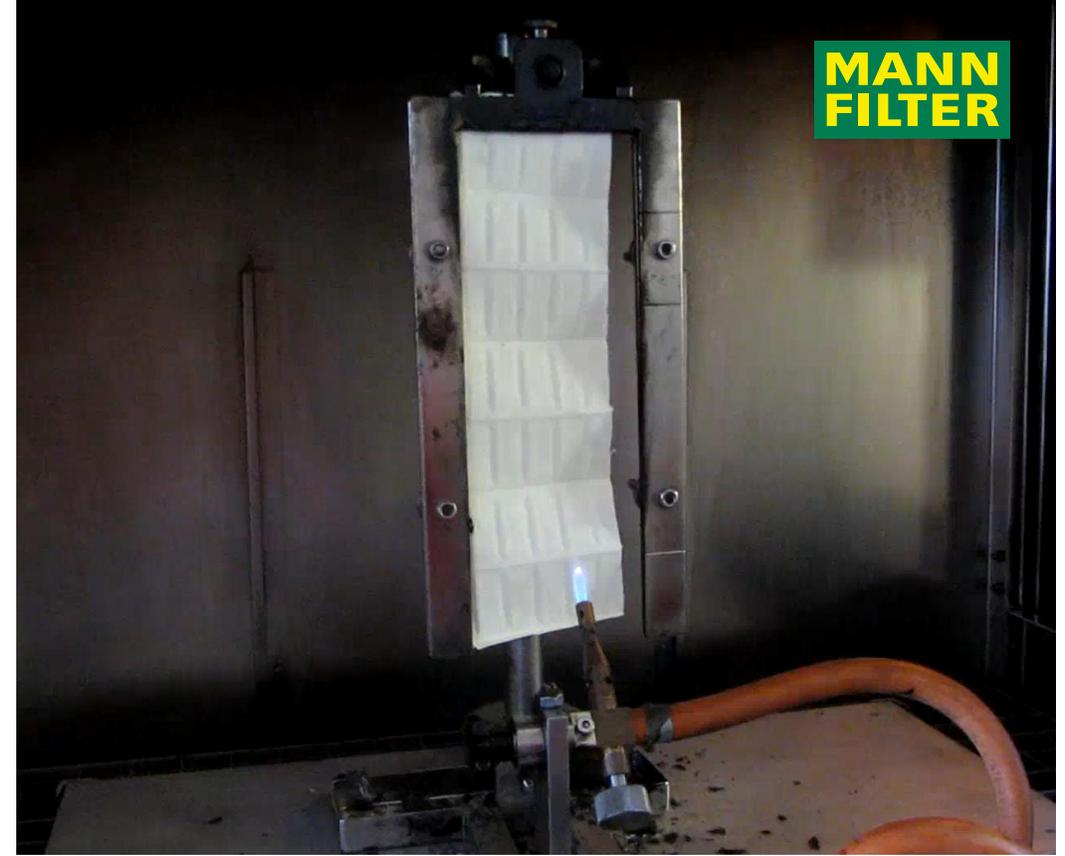
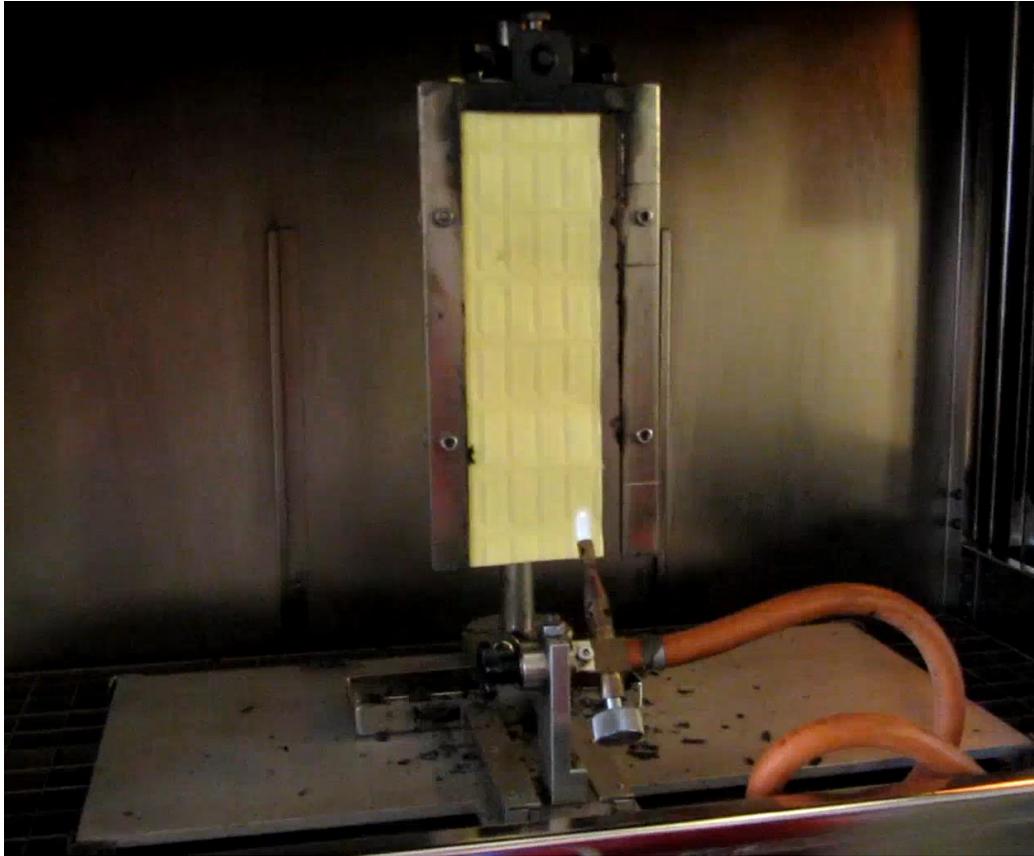
Don't take risks!



Air filters

Flame retardant – a simple test demonstrates the difference

Burning test in accordance with DIN 53438-3; MHN 610 110



Air filters



Stress situation

Water floods
the air filter housing



Water-stable

The filter needs to withstand
the impact of water ...



Air filters

Water stability increases functional safety

Water stability test acc. MHN 626 200

Competitor

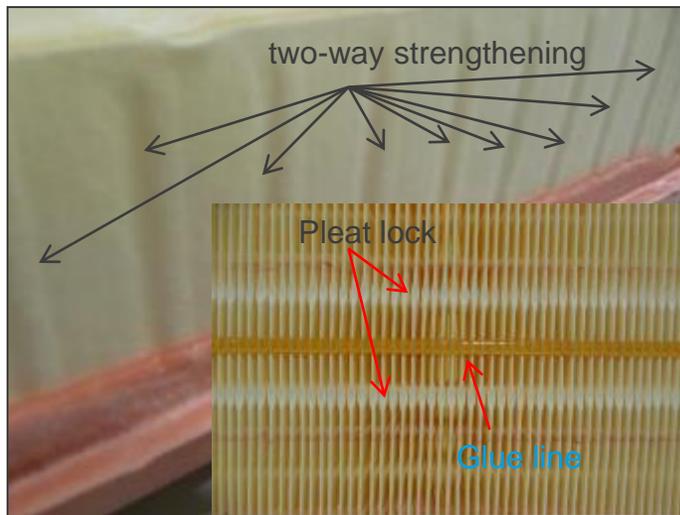


Air Filters

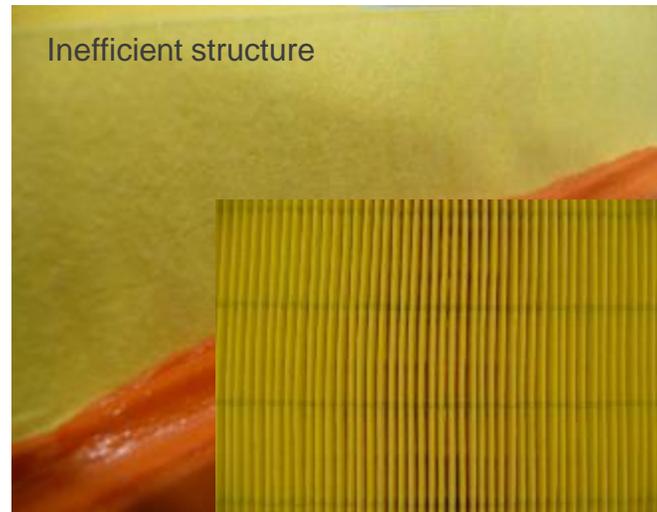
MANN-FILTER Technology (Two-Way Strengthening)

Special pleat geometry to prevent loss of performance, due to

- highly stable pleats
- high dust holding capacity
- excellent water stability



MANN-FILTER technology
two-way strengthening



Inferior filter technology
No stability, reduction of the filtration area

Air Filters

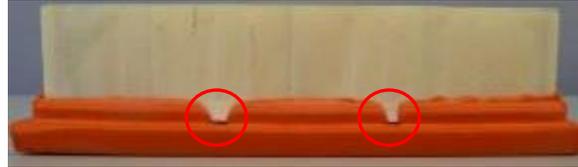
High Dirt and Filtration Efficiency

Functional reliability over the entire service interval

- optimum seal profiles for long term 100% impermeability, 100% protection
- specified filter media each for a specific purpose according to the OE requirements

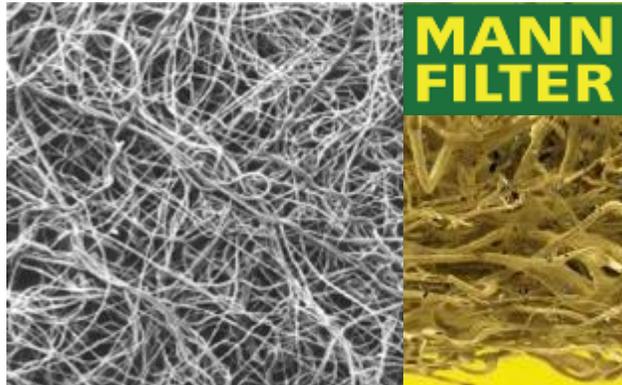


100% impermeability



Poor sealing, lead to engine damage, wear on the pistons through ingress of dirt.

100%
Tightness
High filtration
efficient



High dirt capacity and filtration efficiency



Cheap standard medium, not state of the art

OE expertise Mercedes-Benz



C 30 030, C 26 017

Air filters “FlexLine” for
Mercedes-Benz

OE expertise

Hyundai i20



C 25 002

Further air filters for
Hyundai, Toyota, Mazda,
Honda, Suzuki, ...

OE expertise

Mercedes-Benz Actros



CP 50 001, CP 50 002

**Further air filters for
Mercedes-Benz, Kaeser,
Wacker, ...**

CompacPlus air filter element is replaced by EXALIFE air filter element

OE expertise

Mercedes-Benz Actros



C 49 002
C 50 004/1, C 50 005

Further air filters for
Mercedes-Benz, MAN Latin America



OE expertise

Mercedes-Benz Actros I & Axor II



2 x C 26 1320/3
2 x CF 1650



OE expertise VW Delivery



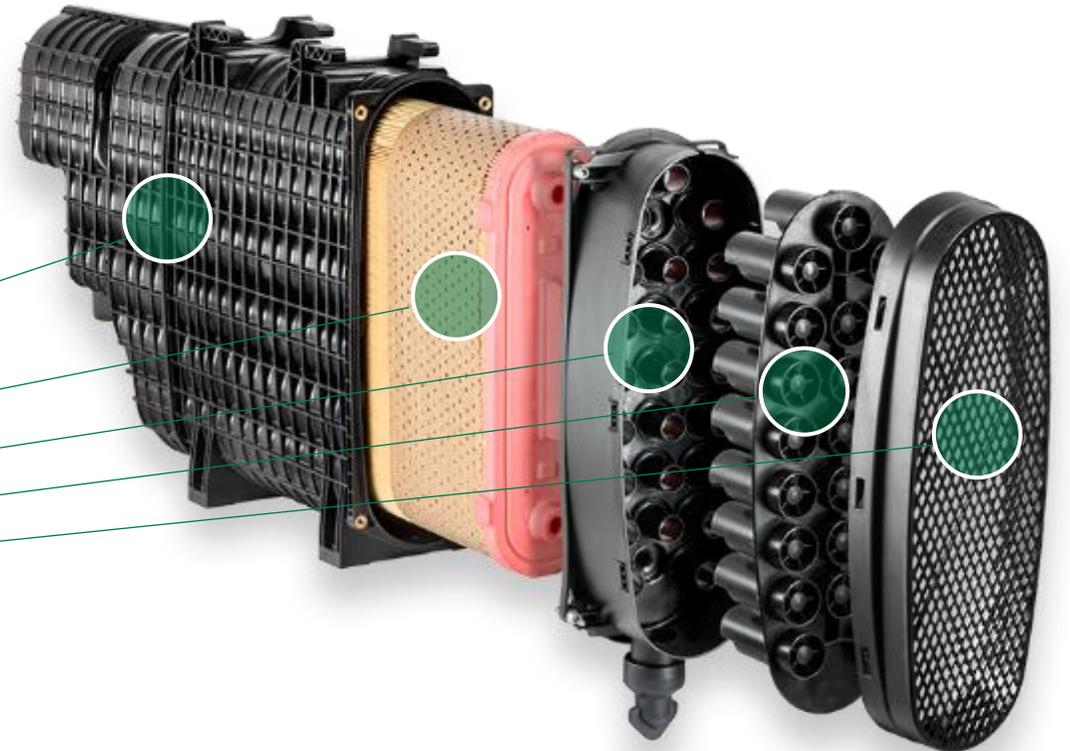
C 37 480

Further air filters for
Mercedes-Benz, MAN Latin America

Exalife filter concept

A solution for tight installation spaces

- Developed for restricted spaces in modern commercial vehicles
- 60,000 kilometre in high dust concentration environments
- Better acoustic



Intake grid

Holds back coarse particles like cigarettes or leaves.

OE expertise Evobus



C 30 850/3, CF 1600

**Further air filters for
Evobus, Neoman, VolvoBus,
Irisbus, VDL, Ikarus, ...**

OE-Expertise Caterpillar



C 30 400/1, CF 2631

**Further air filters for
CLAAS, IVECO, FENDT ...**



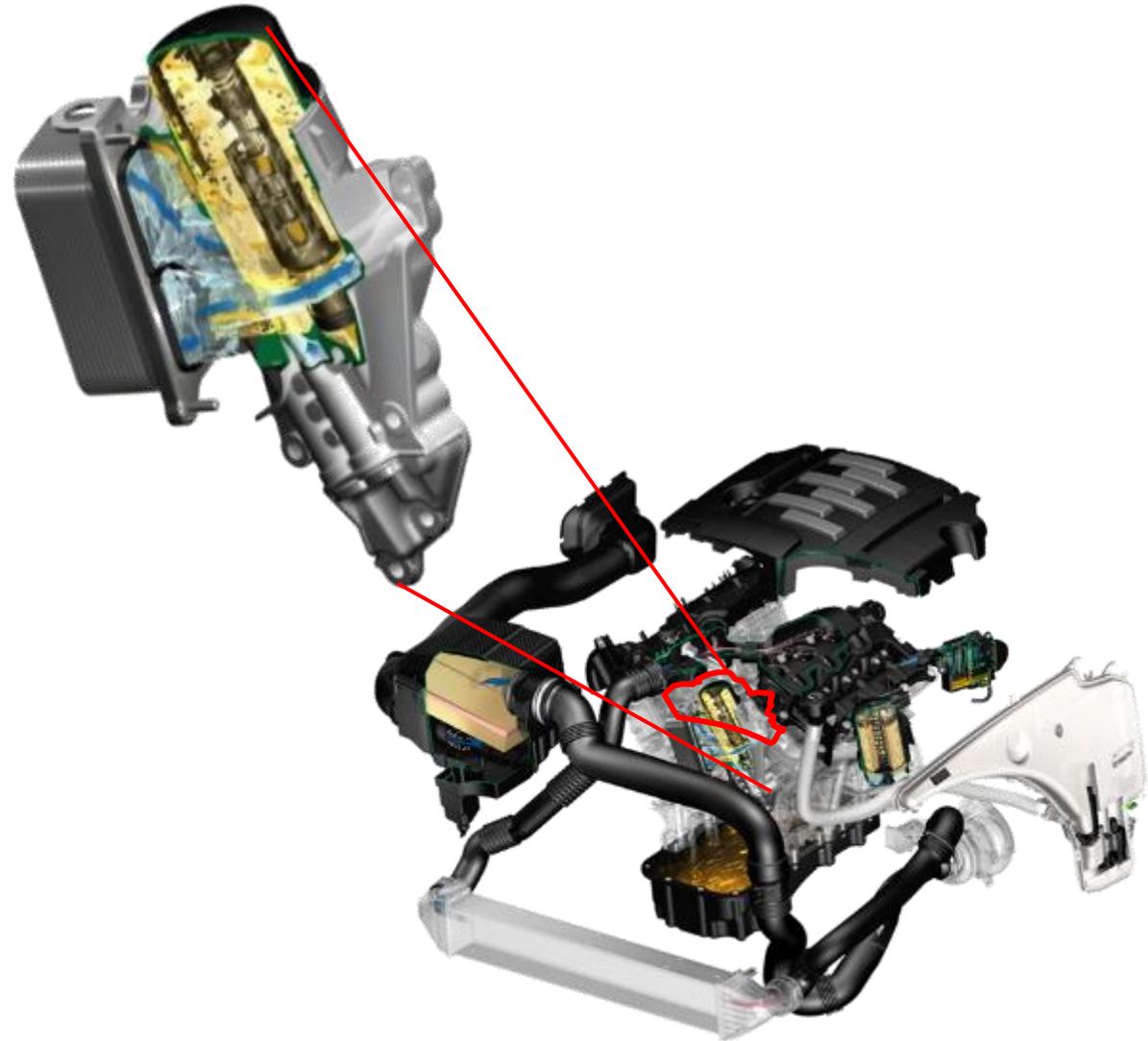
Oil filters

How It Works

Oil Filter Module

Functions:

- oil filtration
- bracket function
- sensor application
- temperature management
- pressure management



Oil filter

Will it be good until the next scheduled servicing?



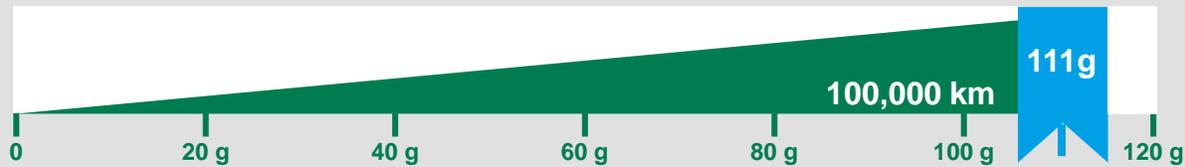
**MANN
FILTER**

gets the service interval just right!

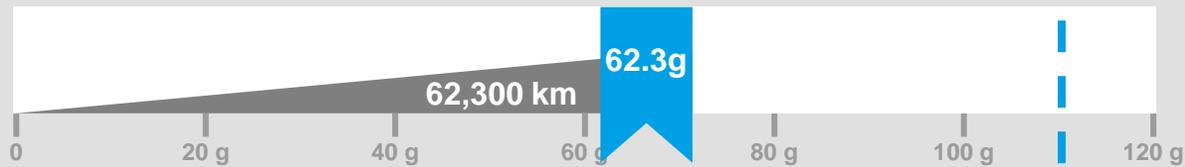
Competition

dies before the necessary service interval!

MANN-FILTER



COMPETITION



Only at a second glance ...
... are the differences noticeable.



The only thing that counts is
what's inside!

Function of the bypass valve



Using a filter with the wrong bypass opening pressure can damage the engine permanently!

What matters are the "inner values"

W 11 Series – Volvo, Scania and Renault Application

Main application	Volvo Trucks	Renault Trucks	Scania	Volvo, Renault Trucks	Volvo Construction	Volvo, Renault
Current sales description (2021)	W 11 102/36 with AEM gasket	W 11 102/35 with AEM gasket	W 11 102/37 with NBR gasket	W 11 102/25 with AEM gasket	W 11 102/34 with AEM gasket	WP 11 102/3 with AEM gasket
Old sales description	W 11 102/4 with NBR gasket	W 11 102/11 with NBR gasket	W 11 102/14 with NBR gasket	-	W 11 102/27 with NBR gasket	WP 11 102 with NBR gasket
Media:	690 (15 µm) Cellulose	833 (13 µm) Cellulose	1233 (14 µm) Mixed fibre old: 833 (14 µm)	833 (14 µm) Cellulose	833 (14 µm) Cellulose	1231 (3 µm) Mixed fibre
Surface:	7,435 cm ²	6,097 cm ²	7,773 cm ²	7,669 cm ²	7,773 cm ²	17,799 cm ²
Capacity:	90 g/m ²	120 g/m ²	130 g/m ²	90 g/m ²	120 g/m ²	15 g/m ²
Others:	sheet thickness 0,63 mm	sheet thickness 0,63 mm	sheet thickness 0,63 mm	sheet thickness 0,75 mm, tapered thread end plate	sheet thickness 0,75 mm, tapered thread end plate	by pass filter

MANN-FILTER : State of the art – Specific filter for OE equivalent specification or higher

Competition : One filter fits all

What matters are the "inner values"

MANN FILTERS with OE quality



Return check valve

with Teflon lining (PTFE)

from inferior materials

Anti-drain membranes

made of silicon (VMQ)

from inferior materials

Bypass valve

with Teflon lining (PTFE)

with no lining

Filter medium

100% synthetic, with drainage grille

unsuitable cellulose medium

Lower quality



Oil Filter

Engine oil filters... what you should know!



Oil Filter

It's what on the inside that counts

Inferior
Filter



**MANN
FILTER**

It's what on the inside that counts

Comparison of single parts: Anti-drain valve dirty side

Reliable
long-term
function

Material:

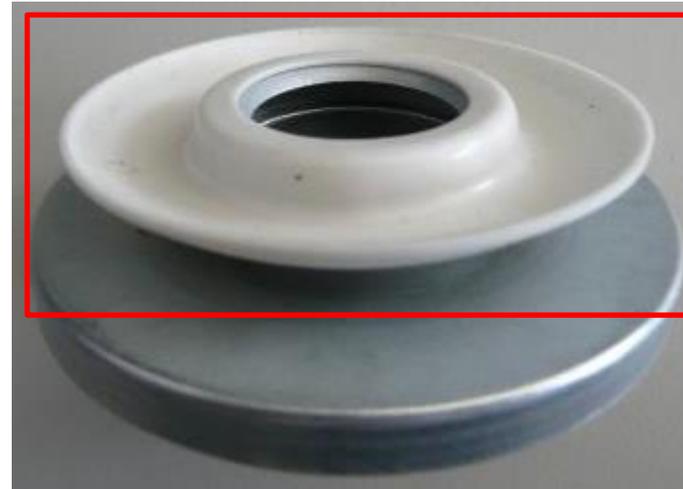
NBR?!?

VMQ LSR (Silicone)

Inferior
Filter



No VMQ \ LSR, not OE quality
Savings due to a use of cheap material
No functional reliability



**MANN
FILTER**

Excellent heat resistance (+200°C)
High flexibility and stability at low temperatures (-40°C)
Specially molded component for reliable function
Functional reliability under all conditions

It's what on the inside that counts

Comparison of single parts: Anti-drain valve clean side

Minimal differential pressure

NBR (Rubber)

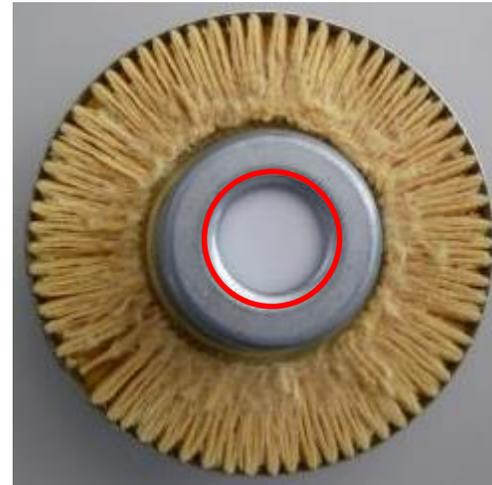
Inferior Filter



Delay in oil pressure build up on starting
No functional reliability due to cost saving
Possible drainage from filter and oil ducts

NBR PTFE (TEFLON) seal

MANN FILTER



Freeze-proof up to -40 °C
Functional reliability under all conditions
No drainage from filter and oil ducts,

It's what on the inside that counts

Comparison of single parts: Filter media

Inferior
Filter

Standard cellulose

**MANN
FILTER**

Longlife mixed fiber

High dust
holding
capacity



**Inferior filter has 15 % less filtration area, reduction of the service life!
No resistance against modern Longlife oil !!**

It's what on the inside that counts

Comparison of single parts: Bypass valve

Inferior
Filter



No seal, dirt particles pass the engine
Small opening, inefficient oil flow
Too low opening pressure, no filtration

**MANN
FILTER**



Teflon seal freeze-proof up to -40 °C
Functional reliability under all conditions
No drainage from filter and oil ducts,

Permanent oil
supply due to a
tuned bypass
valve

The right filter for the correct use



Testing conditions

+



Diesel:
Correct choice
of medium

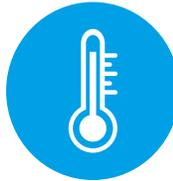


+



500 h

+



150°C

=

Gas engines:

Gas engines:
Correct choice
of medium



Gas engines:
Wrong choice
of medium

Centrifuge: bypass flow oil filter can extend the service life of your lube oil



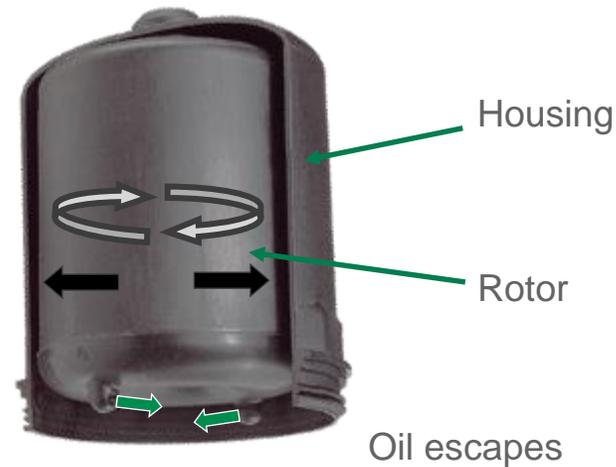
centrifuge FM025



ZR 904

Initial values:

- Dirty oil from diesel engine
- The oil has already been cleaned in a conventional main flow oil filter



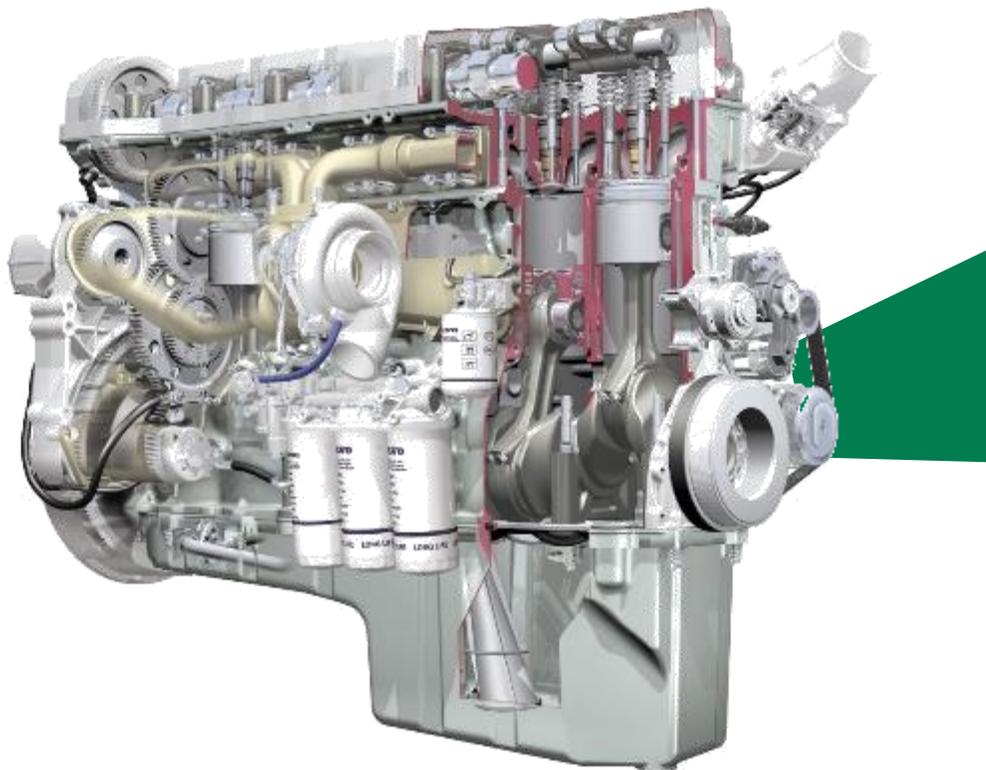
500 g from 25 litres of dirty oil



Separated particle cake

OE Expertise

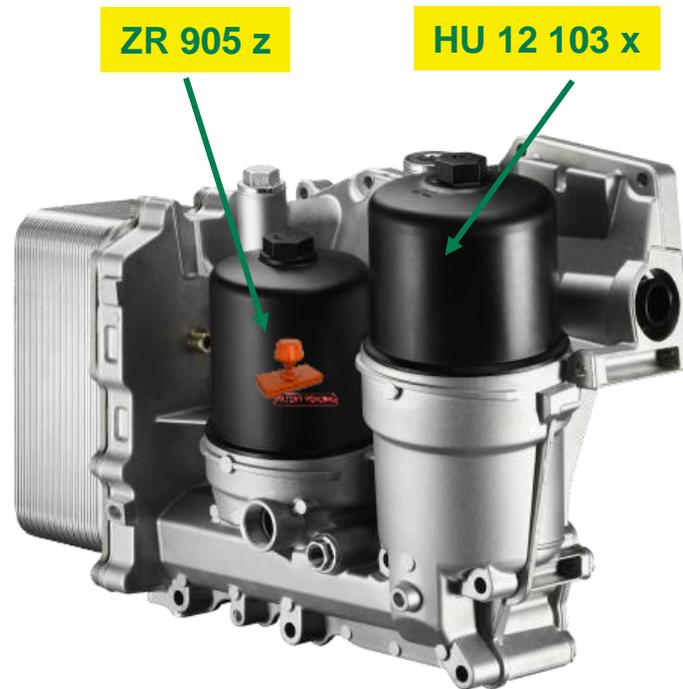
Example: Oil and coolant filters Volvo Trucks engine D16C



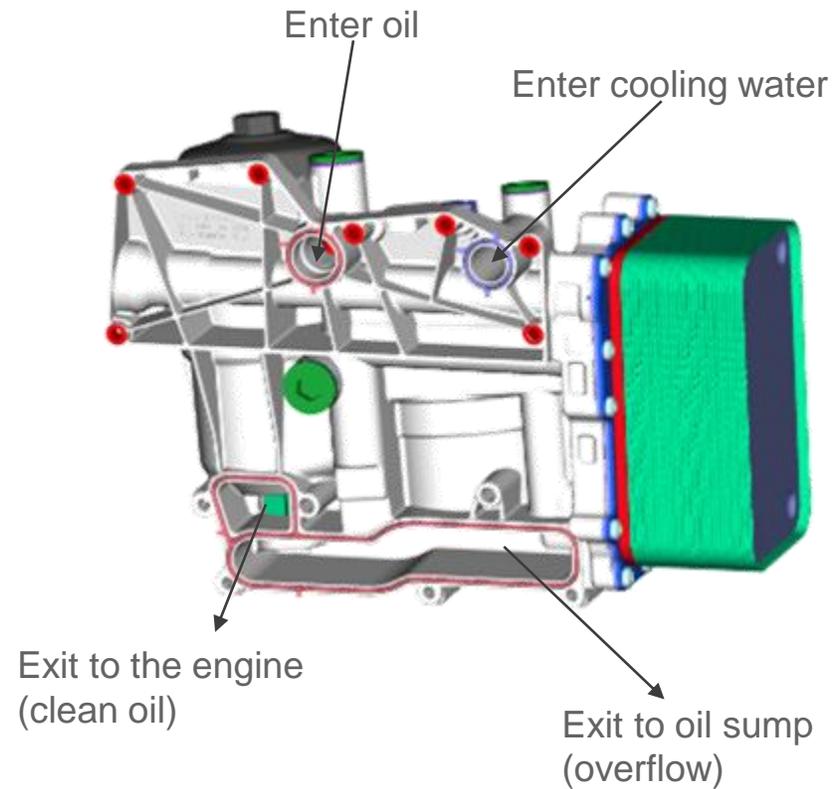
1. By-pass oil filter WP 11 102/3
2. Long-Life oil filter (2x) W 11 102/34
3. Coolant filter WA 940/9

OE Expertise

Oil filter module for DAF MX engines CF 85 / XF 105



Oil module DAF 12,9l R6 MX-engine with metal free element and plastic centrifuge rotor

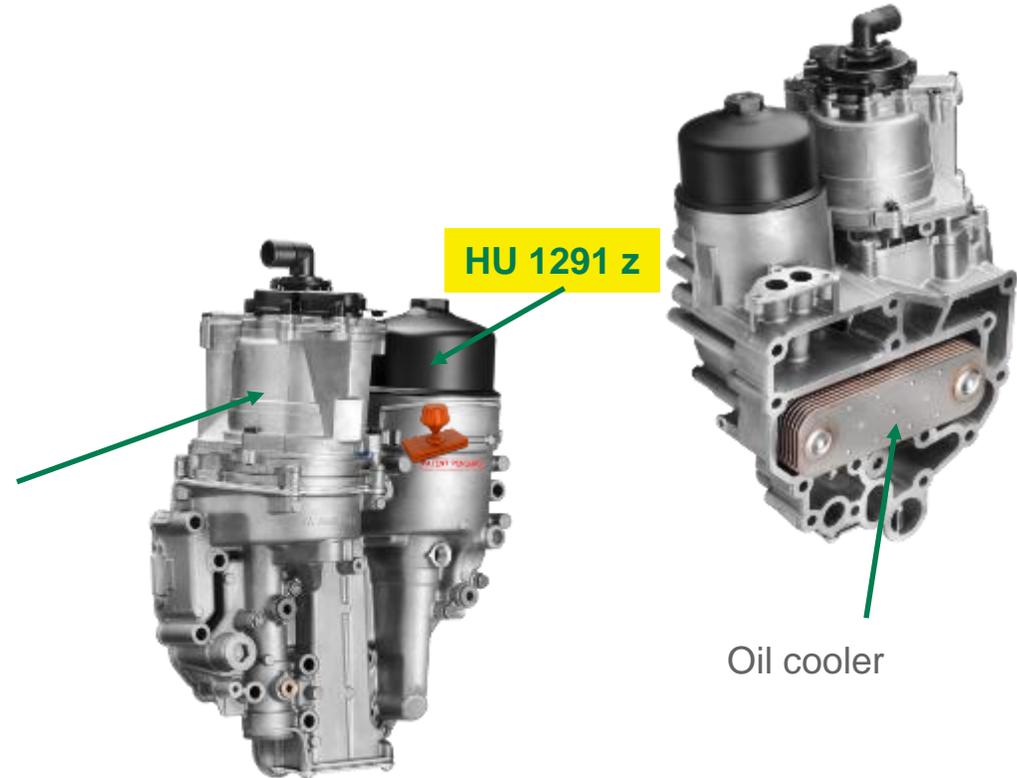


OE Expertise

Example: Oil module MAN D20 / D26, 10,5 I + 12,6 I engine Euro VI



oil mist separator



Oil cooler



Fuel filters

How It Works

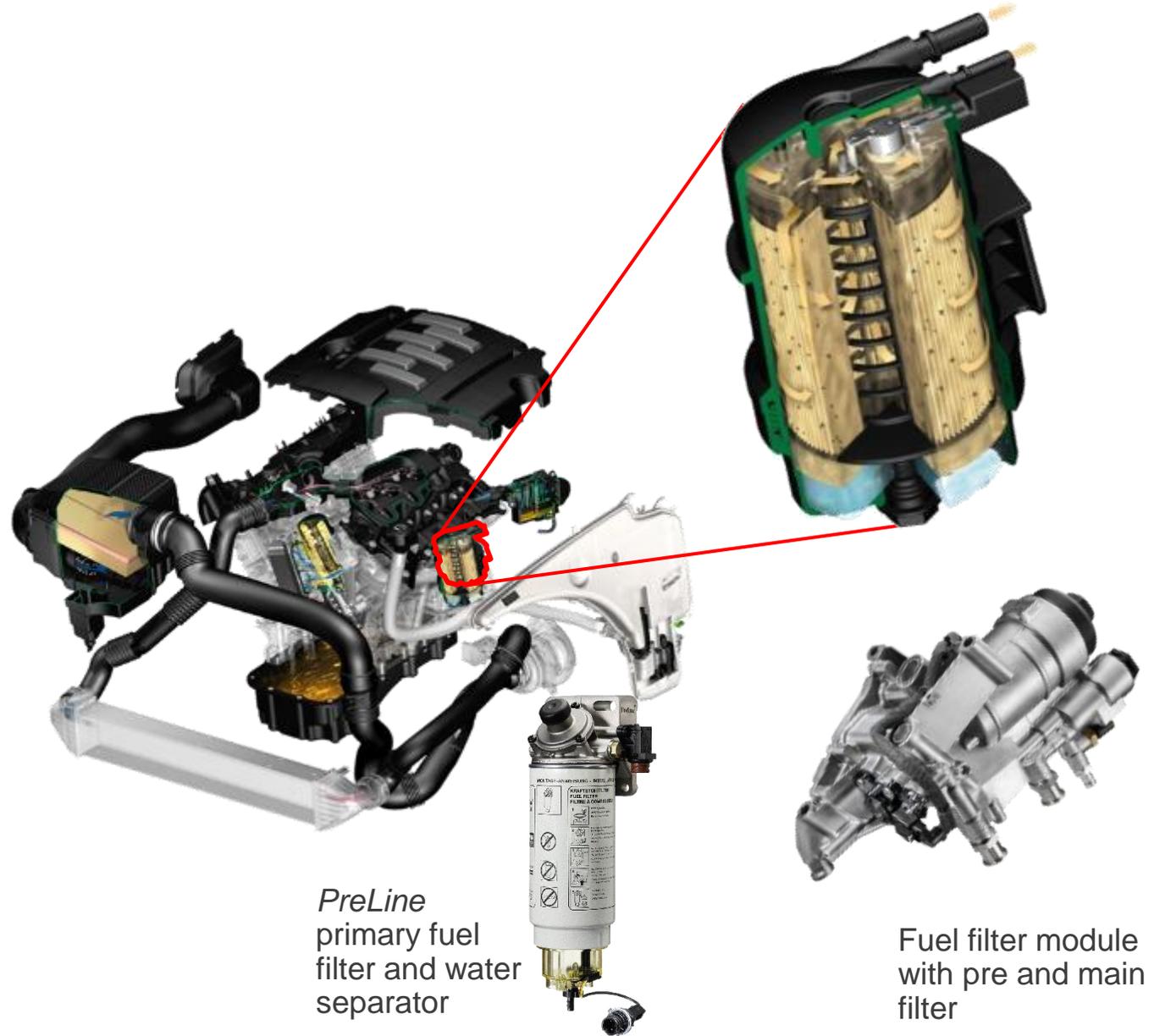
Fuel Filter Module

Functions:

- fuel filtration
- water separation
- temperature management
- sensor application



Metal-free
fuel filter
elements in
single or
duplex module



PreLine
primary fuel
filter and water
separator

Fuel filter module
with pre and main
filter

MANN + HUMMEL

https://www.youtube.com/watch?v=IHSWI5d6_y8 -

Highly efficient 3-stage fuel filter

Fuel Filter

What you should know – the effect of Improper fuel filtration



Damaged fuel injector



Significant loss of engine power



Damaged Fuel Injection Pump



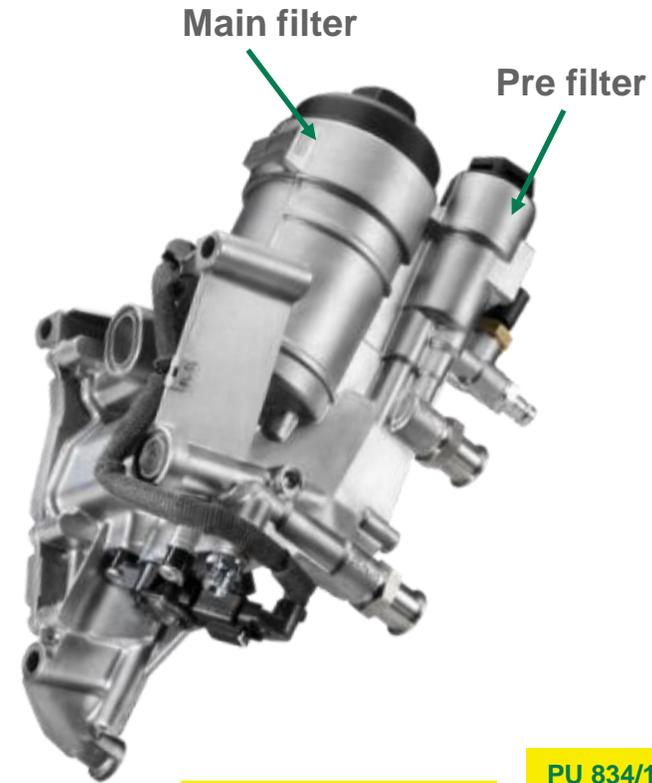
Worn roller in a distribution pump



Parts corroded by water contaminated fuel

OE Expertise

Example: fuel filter system for Mercedes-Benz MDEG i.e. Atego



$$\text{PU 8010-2 x} = \text{PU 834/1} + \text{PU 30}$$

PreLine: proven fuel prefilter technology protects the engine against ingress of water



Preline 150



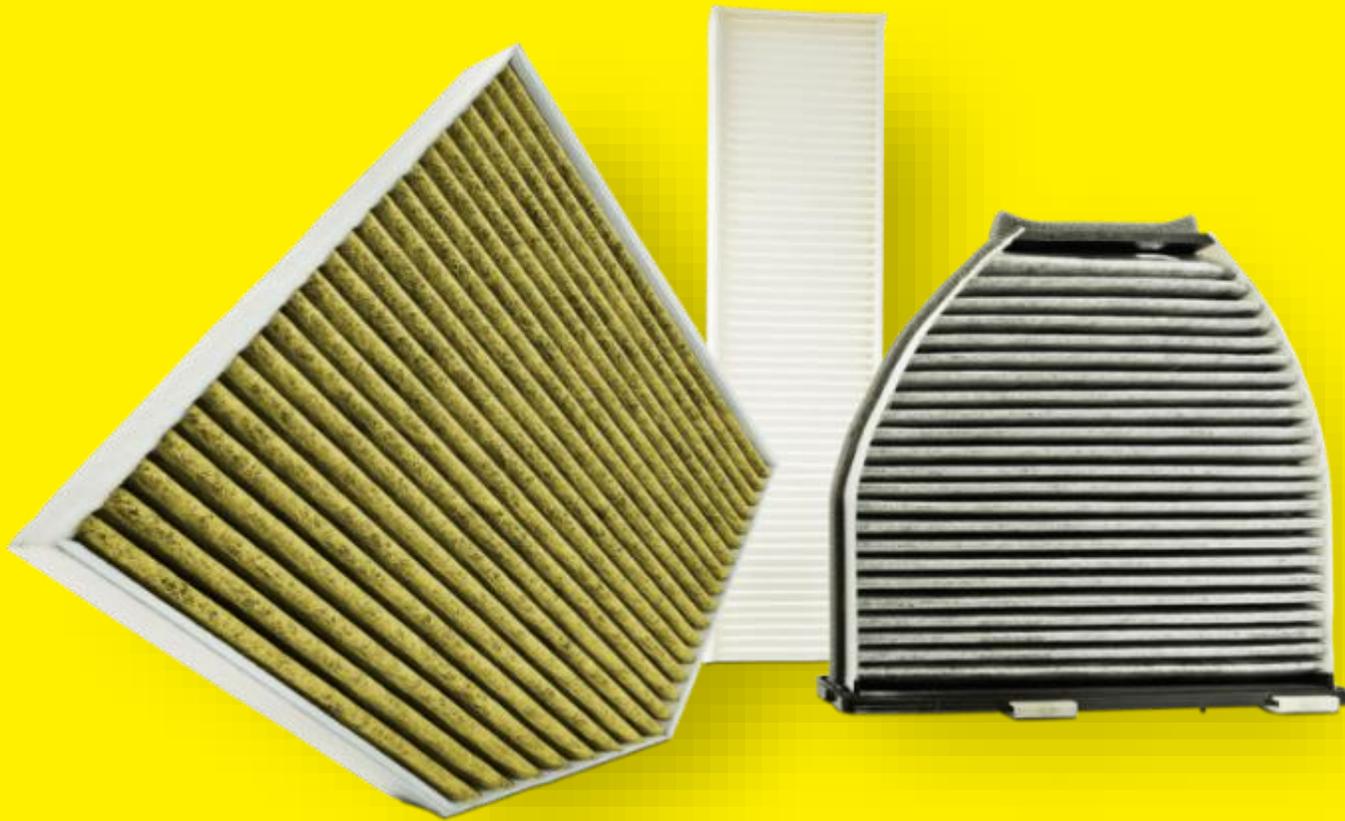
Preline 150



Preline 270



Preline 420



Cabin air filters

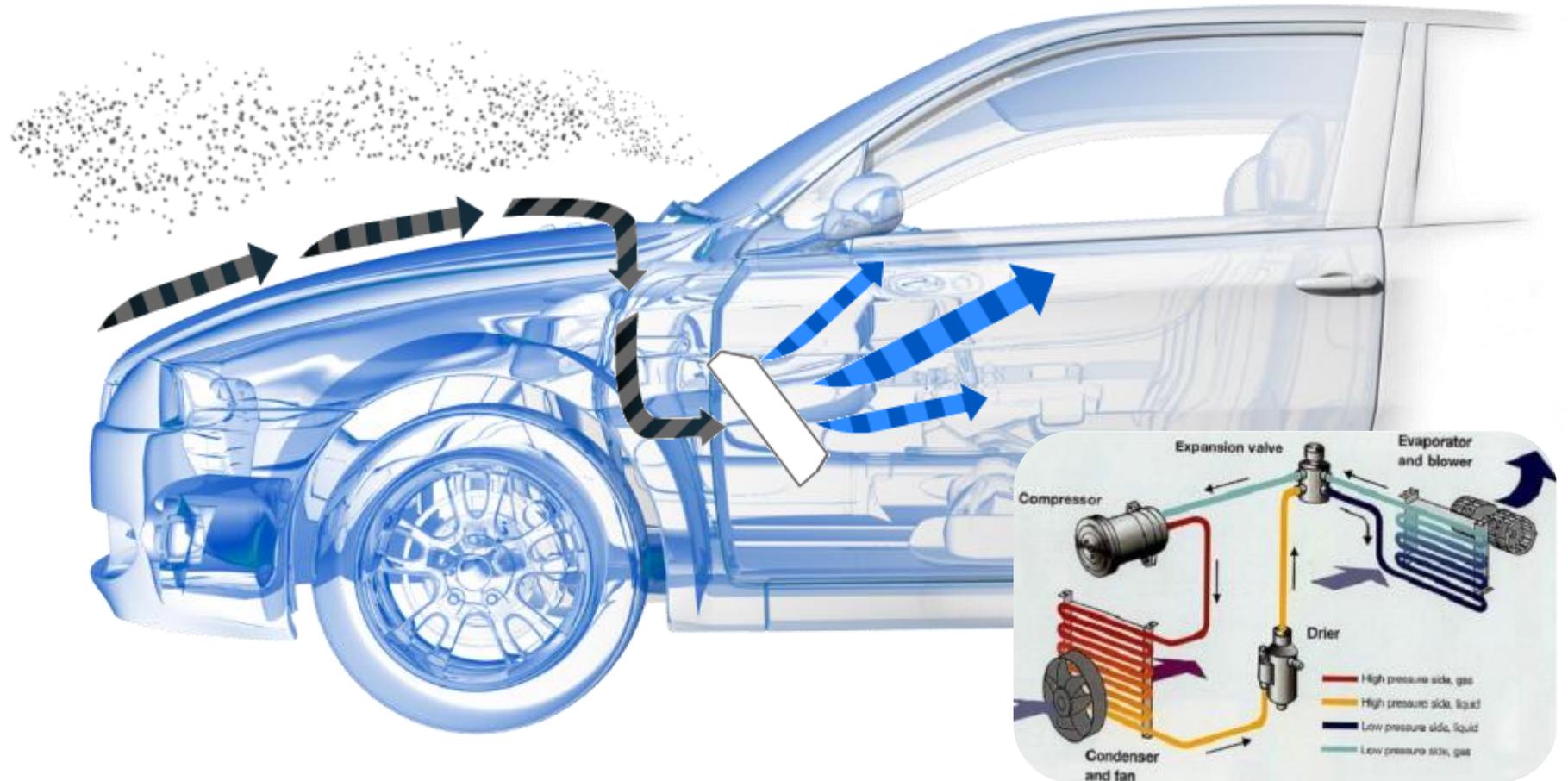
How It Works

HVAC Systems

Functions:

- Air Conditioning
- Particle filtration
- Harmful Gas filtration
- Micro-organism deactivation

Within just one hour, approximately **300,000 litres of air** enter the car through the ventilation ducts





5.000.000.000.000 μm

5.000 m

1.000.000.000 μm

1 m

1.000 μm

1 mm

100 μm

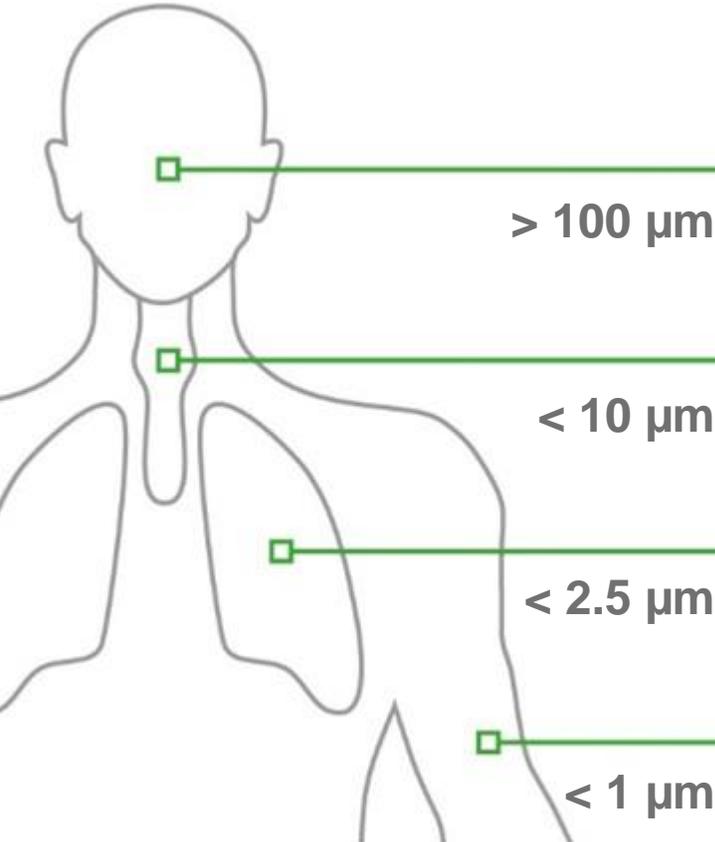
0,1 mm

10 μm

0,01 mm

Cabin air filters

Health risk from fine dust particles



Coarse dust particles

Get into mouth and nose
Irritations such as coughing

Inhalable fine dust particles (PM₁₀)

Reach the larynx / airway
Deterioration of lung function

Inhalable fine dust particles (PM_{2.5})

Reach the bronchi / bronchioles
Inflammation of the lungs

Ultra-fine particles (PM_{0.1})

Penetrate to alveoli / circulatory system
Tumors, heart and lung disease

Deaths caused by fine dust particles per year*:

47,000 in Germany
430,000 in Europe
7,000,000 worldwide

* Source: welt.de / estimation 2015

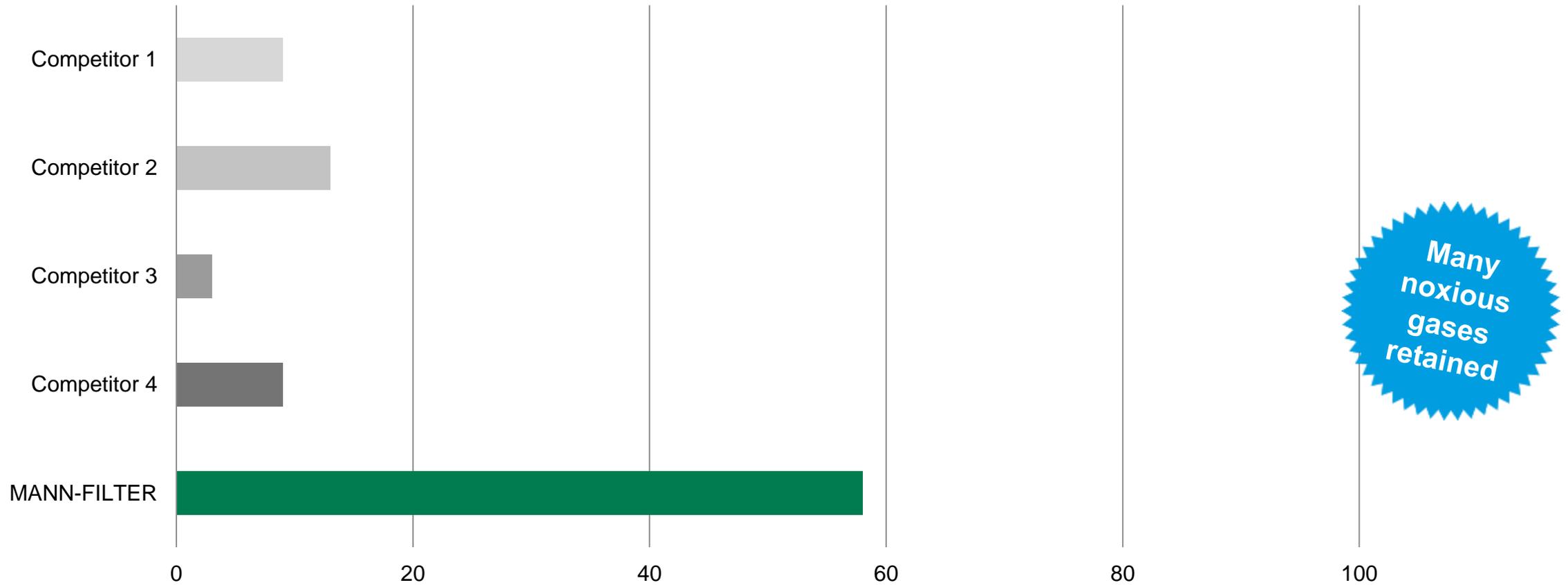
Cabin air filters

Feel the weight of the filter [g]



Cabin air filters

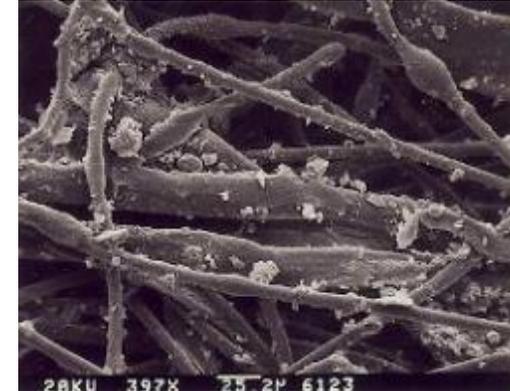
Retention of noxious gases [%]



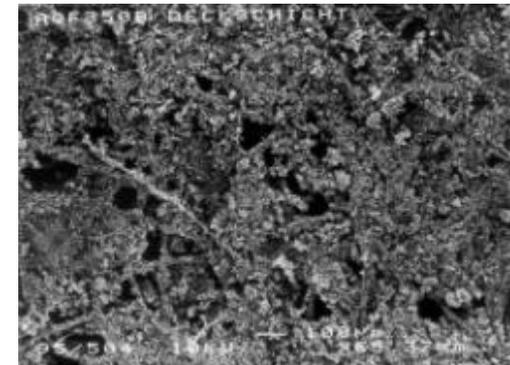
Cabin Air Filter

The cabin air filter must meet the following requirements:

- Fogging free
- Zero hydrocarbon emissions
- Cadmium free
- Resistant against chemicals in the environment
- Flame retardant
- PVC-free
- Glass fibre free
- Cellulose free (not absorbing humidity)
- Odourless (media, adhesive)
- Biological resistance / no bacteria or fungi growth
- Temperature resistant (-40° to +100 °C)



Scale ca. 400:1



Scale ca. 400:1

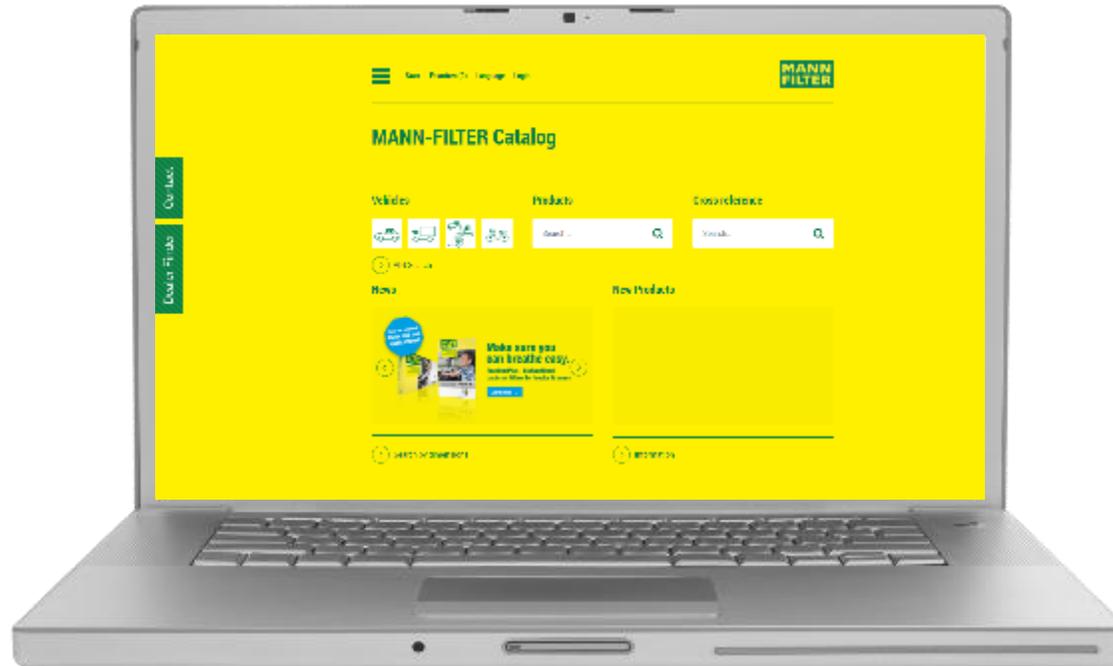
! MANN-FILTER cabin filters meet all requirements

Online Catalogue

MANN-FILTER Catalogue

[MANN-FILTER Online Catalog Europe \(https://catalog.mann-filter.com/EU/eng -\)](https://catalog.mann-filter.com/EU/eng -)

- Cross Reference Search
 - Competitors P/N
 - OE Numbers
- Vehicle Search
- VIN Search
- MANN-FILTER data
 - Product Dimension
 - Product Images
 - Etc...



Online Catalogue

Cross Reference (Competitor & OE P/N)

Search for VOLVO 21707133

The screenshot shows the MANN-FILTER Catalog homepage. The navigation bar includes 'Start', 'Favorites (0)', 'Language', and 'Login'. The main heading is 'MANN-FILTER Catalog'. Below this, there are sections for 'Vehicles' (with icons for car, truck, tractor, and motorcycle), 'Products' (with a search bar), 'Cross reference' (with a search bar containing '21707133' and a dropdown menu listing '21707133 VOLVO (TRUCKS/VCE/VME/PENTA)'), 'News', and 'New Products'. A promotional banner at the bottom reads 'From the first mile to the last. MANN-FILTER - for first fit and the automotive aftermarket.'

The screenshot shows the 'Cross reference' page. The search bar contains '21707133'. The results table is as follows:

	Manufacturer	MANN-FILTER		
21707133	VOLVO (TRUCKS/VCE/VME/PENTA)	W 11 025	Available	
21707133	VOLVO (TRUCKS/VCE/VME/PENTA)	W 11 025	Available	for Trucks
21707133	VOLVO (TRUCKS/VCE/VME/PENTA)	W 11 102/34	Available	
21707133	VOLVO (TRUCKS/VCE/VME/PENTA)	W 11 102/34	Available	for Off Highway Application
21707133	VOLVO (TRUCKS/VCE/VME/PENTA)	W 11 102/34	Available	for Trucks

Online Catalogue

Cross Reference (Competitor & OE P/N)

Search for HENGST H200W40

The screenshot shows the MANN-FILTER Catalog homepage. The navigation bar includes 'Start', 'Favorites (0)', 'Language', and 'Login'. The main heading is 'MANN-FILTER Catalog'. Below this, there are three main sections: 'Vehicles' (with icons for car, truck, tractor, and motorcycle), 'Products' (with a search bar), and 'Cross reference' (with a search bar). The 'Cross reference' search bar is highlighted with a red box, and its dropdown menu is also highlighted, showing three results: 'H200W40', 'H200W40 HENGST', and 'H200W40 HENGST'. Below the search bar, there are sections for 'News' and 'New Products'. At the bottom, there is a promotional banner for MANN-FILTER with the text 'From the first mile to the last.' and 'MANN-FILTER - for first fit and the automotive aftermarket.'

The screenshot shows the MANN-FILTER Cross reference page. The navigation bar includes 'Start', 'Favorites (0)', 'Language', and 'Login'. The main heading is 'Cross reference'. Below this, there is a search bar with 'H200W40' entered. The search results are displayed in a table with three rows. The table is highlighted with a red box. The columns are 'Manufacturer', 'MANN-FILTER', and 'Availability'. The first row shows 'MANN-FILTER' as the manufacturer and 'W 11 025' as the OE P/N. The second and third rows show 'HENGST' as the manufacturer and 'W 11 102/34' as the OE P/N. All three rows are marked as 'Available'.

Manufacturer	MANN-FILTER	Availability
H200W40	W 11 025	Available
H200W40	W 11 102/34	Available

Online Catalogue Vehicle Search


Start Favorites (0) Language Login


Vehicles

⏪ Back






Manufacturer
Model series

VOLVO TRUCKS ▾

FM 12 (98-05) | 98-08 ▾

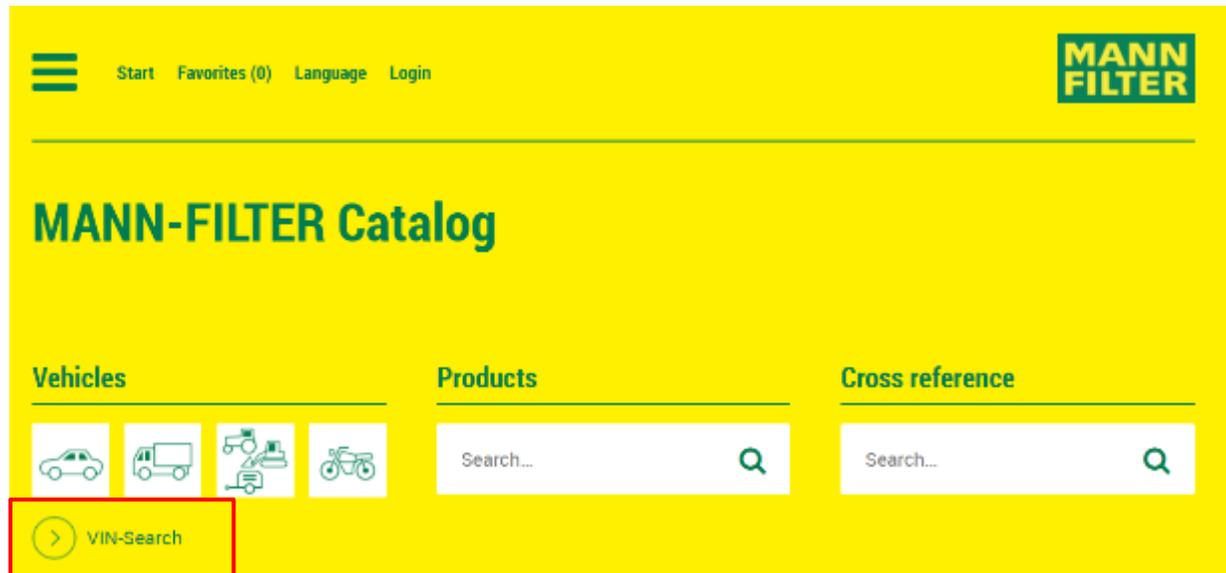
Model type	Engine code	kW	HP	Year of manufacture
FM 12-340	D 12C/D-340	250	340	08/98 → 11/08

Air Filter	Oil Filter	Fuel Filter	Cabin Filter	Other filters
 <p>C 34 1500/1</p> <p>ⓘ Engine code D12C</p> <p>➕ Accessories</p>	 <p>W 11 102/34</p> <p>ⓘ Long-life filter ⓘ Quantity: 2 Piece ⓘ optionally</p> <p>➕ Accessories</p>	 <p>WDK 11 102/24</p> <p>ⓘ Engine code D12D ⓘ Long-life filter</p>	<p>no filter fitted</p> <p>ⓘ ->10/01</p>	 <p>H 601/4</p> <p>Hydraulic steering</p>
 <p>C 31 1345/1</p>	 <p>W 11 102/36</p>	 <p>WDK 11 102/28</p>	 <p>CUK 2184</p>	 <p>HU 721 x KIT</p>

Online Catalogue

VIN Search

Search for SALWA2EEXFA524386



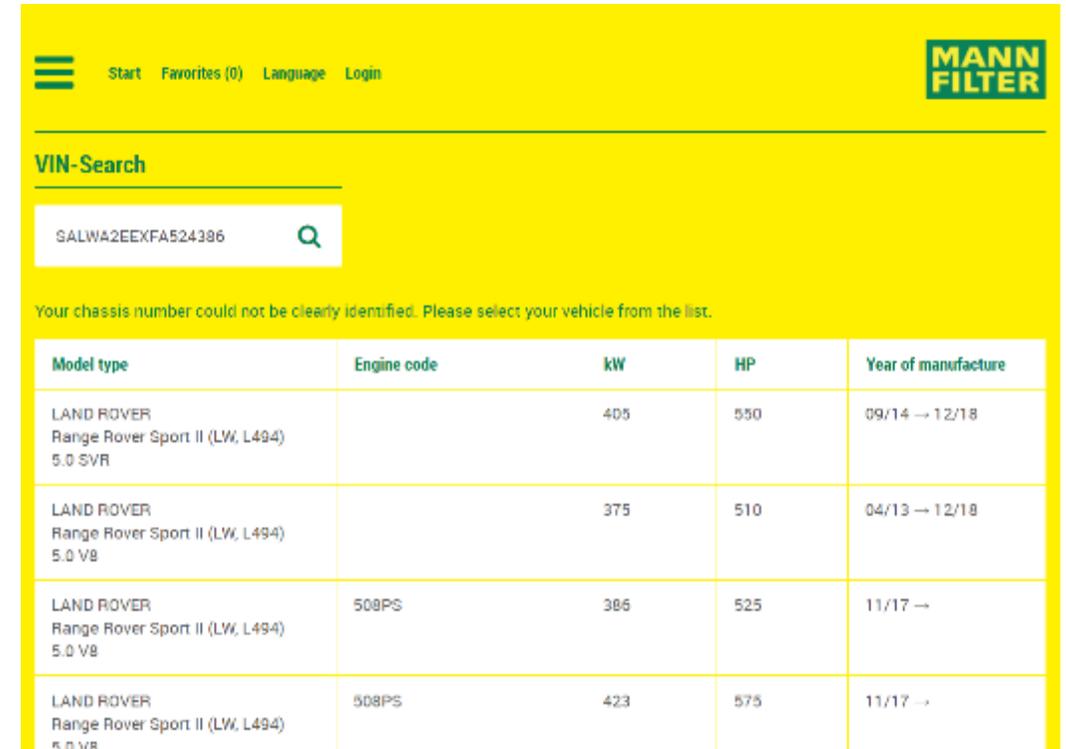
Start Favorites (0) Language Login

MANN-FILTER Catalog

Vehicles **Products** **Cross reference**

Search... Search... Search...

VIN-Search



Start Favorites (0) Language Login

VIN-Search

SALWA2EEXFA524386

Your chassis number could not be clearly identified. Please select your vehicle from the list.

Model type	Engine code	kW	HP	Year of manufacture
LAND ROVER Range Rover Sport II (LW, L494) 5.0 SVR		405	550	09/14 → 12/18
LAND ROVER Range Rover Sport II (LW, L494) 5.0 V8		375	510	04/13 → 12/18
LAND ROVER Range Rover Sport II (LW, L494) 5.0 V8	508PS	386	525	11/17 →
LAND ROVER Range Rover Sport II (LW, L494) 5.0 V8	508PS	423	575	11/17 →

Online Catalogue

Product Dimension, Product Images, etc...

Search for W 11 102/34

W 11 102/34 Back

MANN-FILTER Application Cross reference

Product description		Dimensions (mm)	
Filter type	Oil Filter	A	108
GTIN code	4011558021658	B	92
Delivery status	Available	C	100
Wrench removal tool	LS 11	G	1 1/8-16 UN-2B
		H	262

360°



[MFPI 163 - W 11 102/34 vs. W 11 025](#)

[MFPI 167 - alternative use](#)

Search for W 11 025

W 11 025 Back

MANN-FILTER Application Cross reference

Product description		Dimensions (mm)	
Filter type	Oil Filter	A	108
GTIN code	4011558341718	B	93
Delivery status	Available	C	103
Wrench removal tool	LS 11	G	1 1/8-16 UN-2B
		H	261

360°



[MFPI 163 - W 11 102/34 vs. W 11 025](#)

[MFPI 167 - alternative use](#)