

***“Together
we create and
build engines
tailored
to your needs”***

Massimiliano Busi

Manager Industrial Engineering Europe



OUR PARTNERSHIP HAS NO DOWNTIME

Whether you are trying to stay ahead of the competition or meet legislation like Stage V, change is inevitable. Our partnership is about helping our customers through this process, not only by providing high quality engines but more importantly a strong partnership that reaches far beyond the life cycle of the engine.

Contact me to make
the safe choice.

Massimiliano Busi

Manager Industrial Engineering Europe

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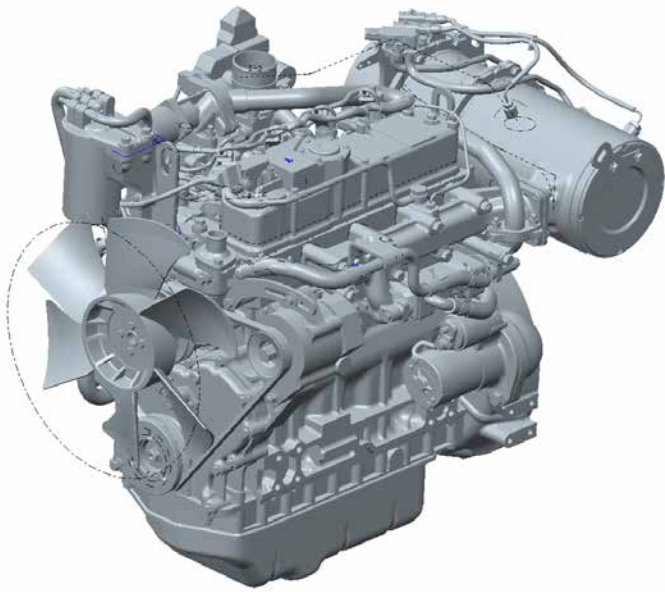
massimiliano_busi@yanmar.com



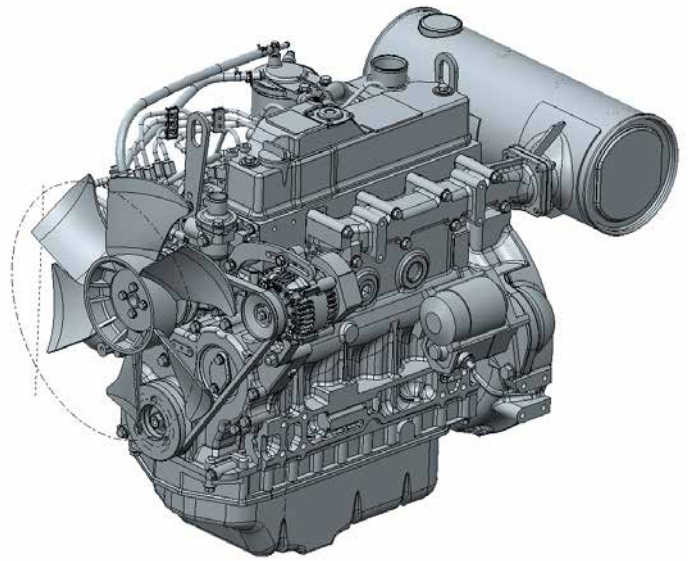
I need to change my engine to be Stage V compliant.

How easy is it with Yanmar?

Our partnership has no downtime



same engine profile - DPF



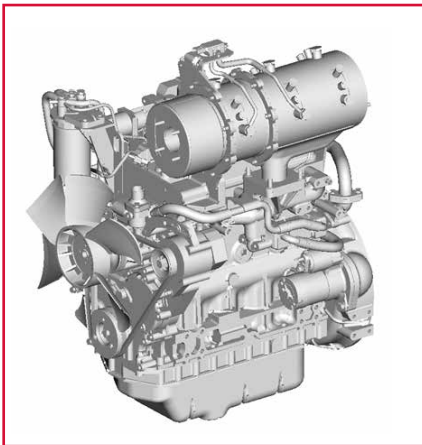
same engine profile - Silencer

Can I easily replace Stage 3A engines with Stage V?

Yes you can. Our engine range is the result of decades of experience, giving you the perfect combination of clean emissions, excellent durability and low cost of ownership. Our Stage V engines have a compact profile and the same footprint as Stage 3A engines allowing for a smooth, trouble-free transition.

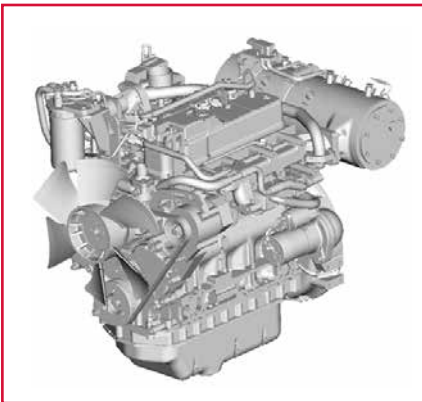
Where is the Diesel Particulate Filter (DPF) mounted on the engine?

DPF can be mounted on the flywheel housing, exhaust manifold or remote.



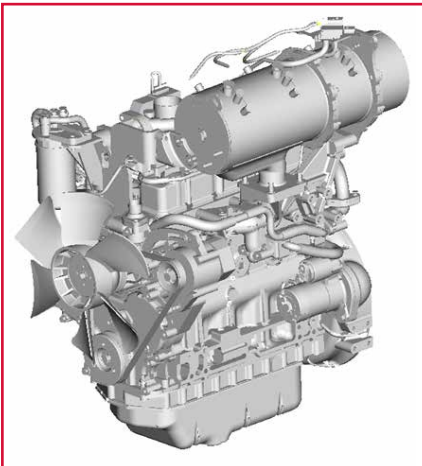
Standard 1

**Location: Above FW Housing
Exh. Gas Outlet: Intake Side**



Standard 2

**Location: Above Exh. Manifold
Exh. Gas Outlet: FW Side**

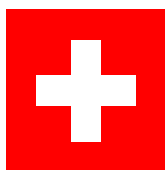


Standard 3

**Location: Above Exh. Manifold,
Exh. Gas Outlet: Fan Side**

Yanmar Complies

Yanmar is already certified to meet worldwide off highway regulations. The company was the first engine manufacturer to be certified for the Swiss OAPC regulations (19 – 37kw) and Californian ARB regulations (19 – 56kw) in the industrial engine sector.



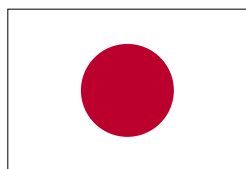
**Swiss
FOEN
(18-56kW)**



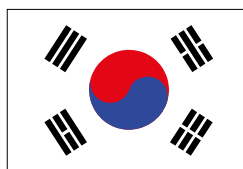
**US
Tier4
(19-56kW)**



**EU
Stage II B
(19-56kW)**



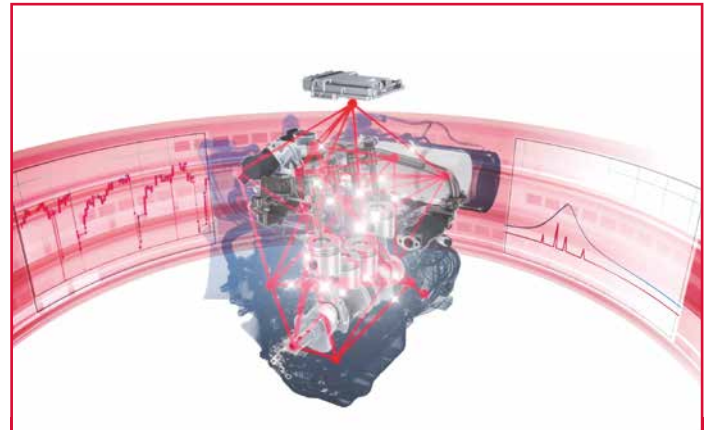
**Japan
2013
(19-56kW)**



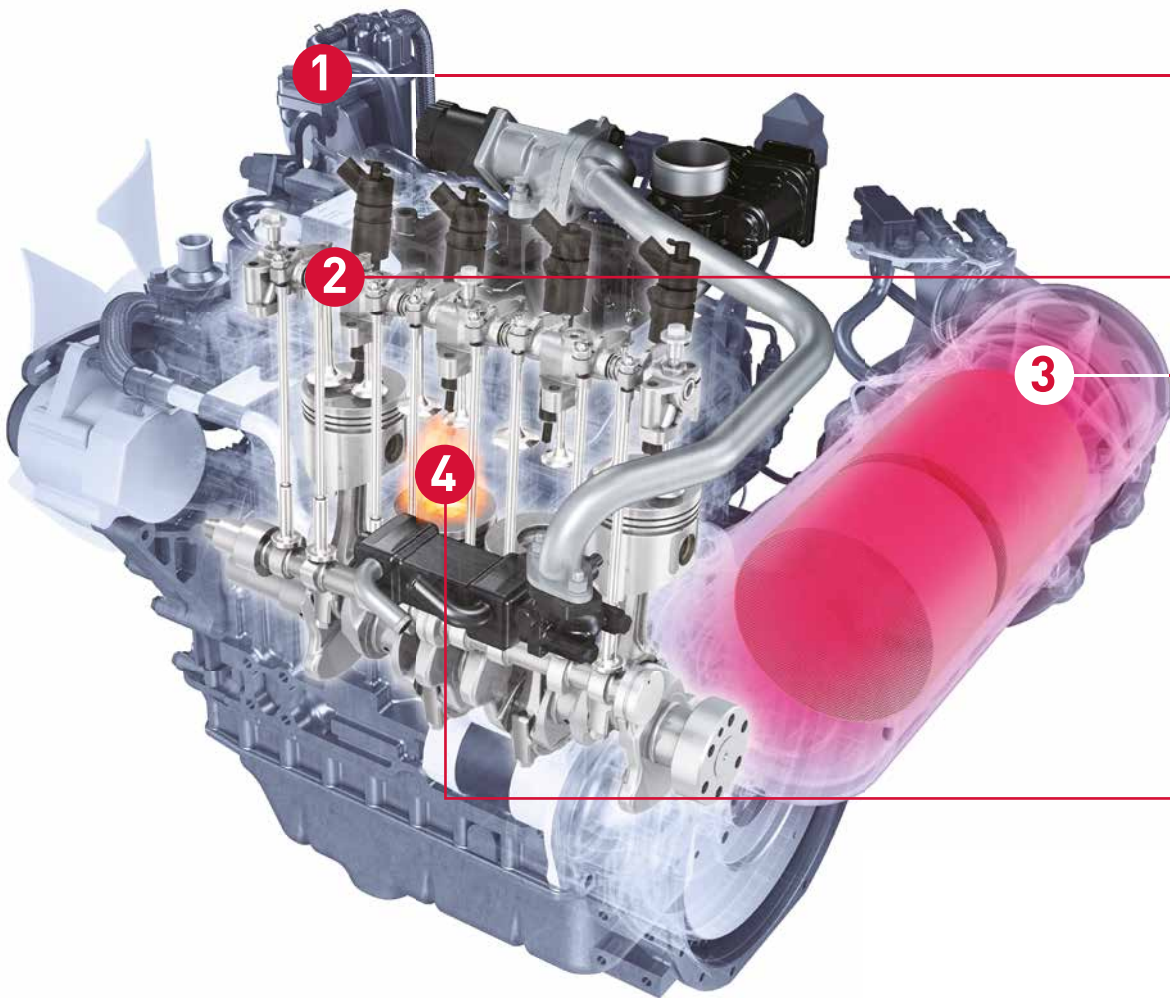
**Korea
Tier4
(19-56kW)**

What technologies unique to Yanmar are applied to Stage V engines?

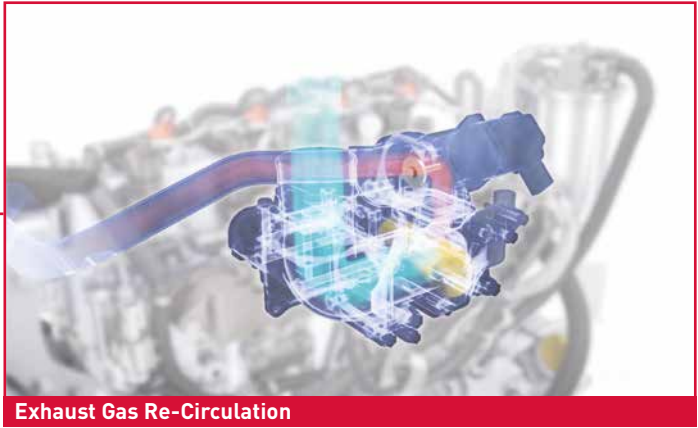
- A choice of DPF mounting positions for more flexibility where space is limited
- Innovative 3-step regeneration. No clogging. No downtime
- Precision injector design gives a super-fine fuel mist spray for more complete combustion
- Sensors constantly checking ambient temperature, oxygen level and altitude to ensure the absolute peak of performance under all conditions



Our ECU (Engine Control Unit) plays a major role in the performance of the fuel injection system inside the engine.



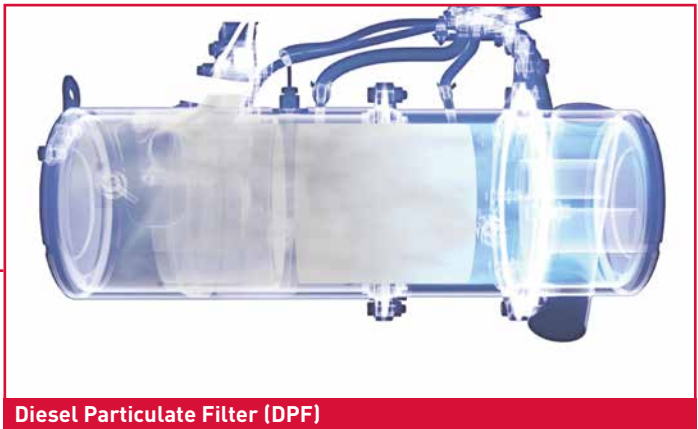
Our partnership has no downtime



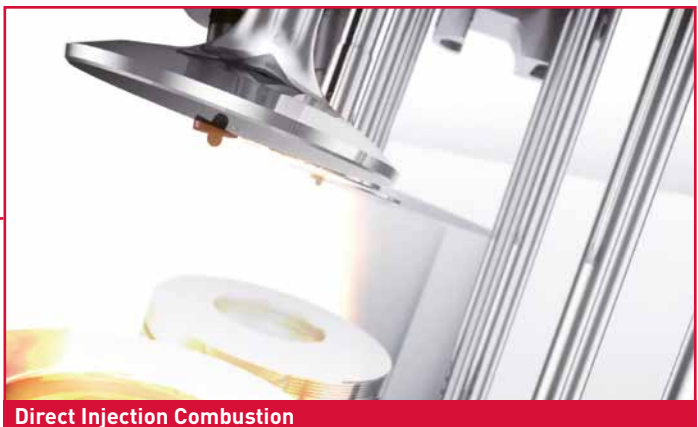
Exhaust Gas Re-Circulation



Common Rail System



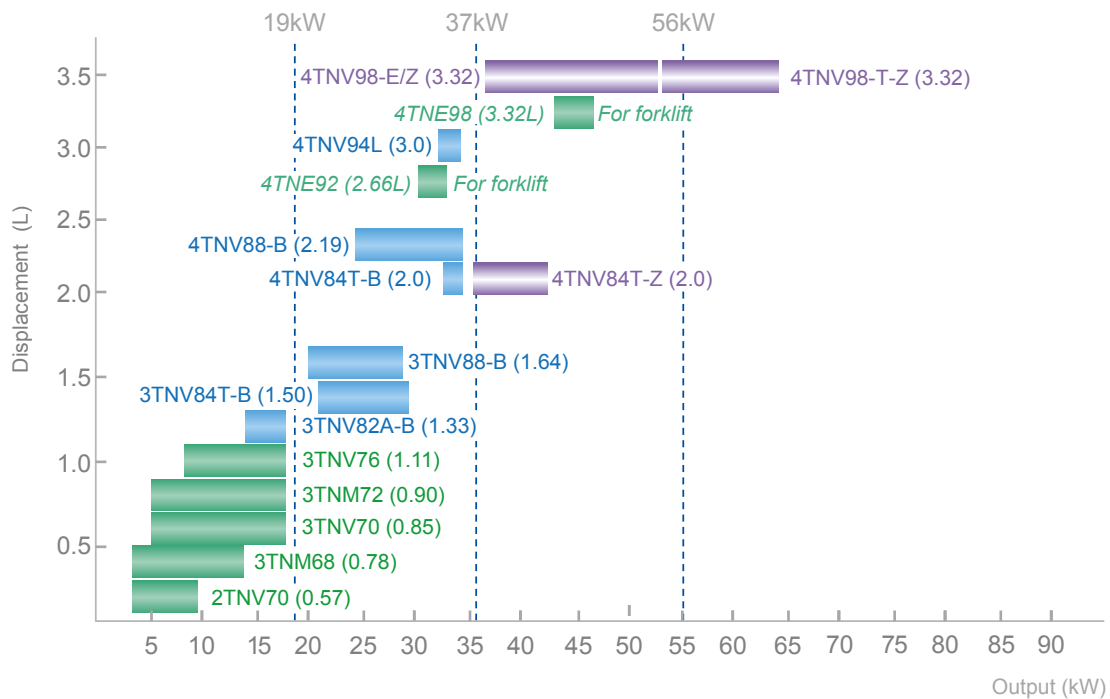
Diesel Particulate Filter (DPF)



Direct Injection Combustion

Yanmar's existing TNM/TNV engines

Product line-up for non-Tier4



YANMAR




Existing TNM/TNV engines

*Under 19kw (no emission)

*19-37kw Stage 3a - till 2019

*37-56kw Euro Stage 3b - till 2019

*57kw + Euro Stage 4 till 2020

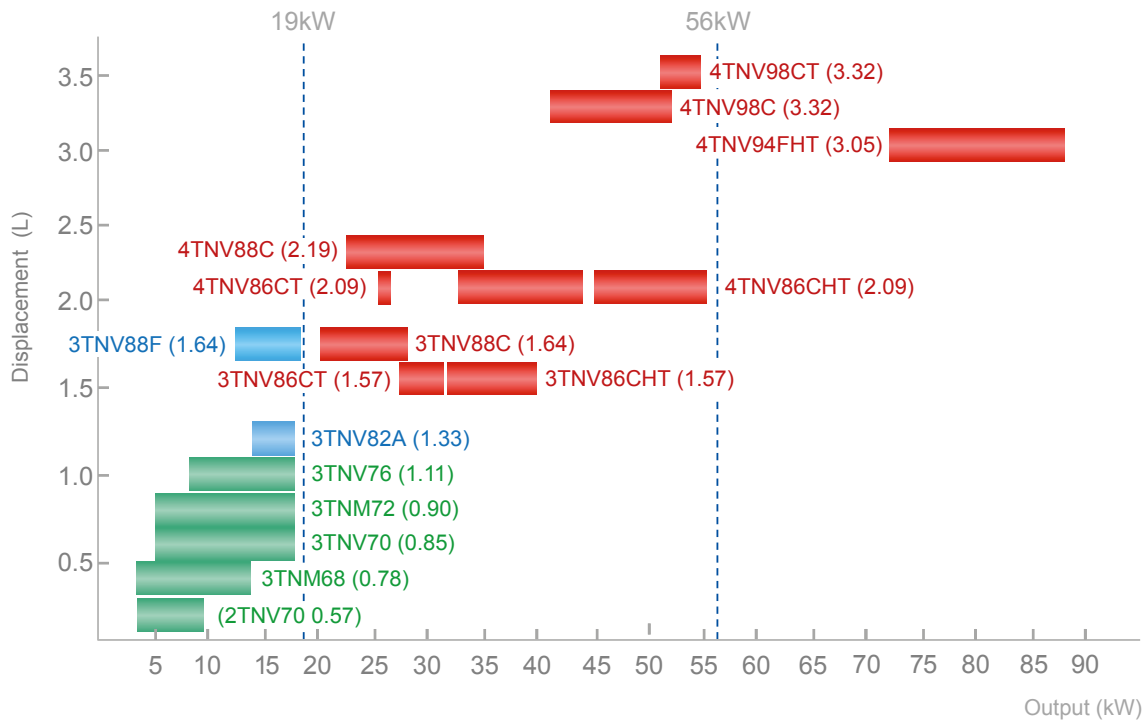
	Combustion	FIE
	DI	Mechanical +EGR & Electric Governor
	DI	Mechanical
	IDI	Mechanical

Our partnership has no downtime

Yanmar's new TNM/TNV engines



EU StageV Engines line-up



YANMAR

New TNM /TNV Stage V engines
***1-56kw – Euro Stage V From 2019**
***57kw + Euro Stage V From 2020**

	Combustion	FIE
	DI	CRS
	DI	Mechanical
	IDI	Mechanical

With Yanmar you make the safe choice.

- ✓ **Meet stage V**
- ✓ **Help with engineering and installation**
- ✓ **Worldwide support & delivery**
- ✓ **Provide long life cycle DPFs**
- ✓ **DPFs mounted in multiple positions**
- ✓ **Available as a base engine or power pack**
- ✓ **Personal service from your local, specialist team**



***Can you help us with
a safe transition?***

**Yes we can
We are more than just a brand**

Our partnership has no downtime



Ann

Logistic Specialist
Europe

Heiko

Sales Manager
Central Europe



Arjan

Senior Service Engineer
Europe



Massimiliano

Manager Industrial Engineering
Europe



**Do you need help?
Just contact one of us.
Consider us a part of your team.**

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