



YANMAR

News Release

April 23, 2018

Yanmar Co., Ltd.

Yanmar Introduces Two High-Power Industrial Diesel Engines



4TN107 Industrial Diesel Engine

OSAKA, Japan (April 23, 2018) –Yanmar has developed two new high-power industrial diesel engines that produce up to 155kW while meeting EU Stage V emission regulations, the company announced today at INTERMAT 2018, one of the world’s largest exhibitions of industrial machinery. With the addition of these new engines, the 4TN101 and 4TN107, Yanmar’s lineup of diesel engines has expanded, placing the company into the heart of the high-power diesel engine market.

Industrial and marine diesel engines must meet strict emission regulations in various markets, while delivering superior fuel economy and overall efficiency with reliability and durability, to satisfy today’s customers. Yanmar has long provided a wide range of products to meet the needs of its customers and continues to do so with the two engines introduced today. The 4TN101 and 4TN107 are the result of Yanmar’s rich heritage and vast experience in developing cutting-edge diesel engine technology, and show the company’s commitment to

producing the very best high-power, fuel-efficient diesel engines that the market demands.

In addition to these newly developed high-power diesel engines, Yanmar will continue to offer superior compact diesels which meet the needs of all our customers in the under 56kW class.

Main Features:

(1) Best in Class Fuel Consumption

By implementing our advanced combustion technology, which has been cultivated through years of manufacturing industrial and marine diesel engines, our engines achieve fuel consumption reductions of approximately 10 percent compared to a similar-sized engine with the same output^{※1}. The improvement in fuel efficiency results in longer operation times and contributes to significant financial savings throughout the life-cycle of the engine.

(2) High Power Density

We have produced a high-rigidity engine designed for high-power output. The 4TN107 features a two-stage turbocharger that gives it a class-leading power density of 34kW/L^{※2}.

(3) Outstanding Torque

Thanks to Yanmar's advanced combustion technology and application of the turbocharger, both engines deliver superior torque to meet the requirements of a wide variety of industrial fields, including construction, agriculture and material-handling. Furthermore, the 4TN107 with a two stage turbocharger can achieve a maximum torque of 805Nm.

(4) Compact Size

The compact profile of the engine takes into account the needs of vehicle manufacturers, improving installation characteristics. Yanmar's proprietary exhaust-gas reduction technology results in a more compact exhaust-gas after-treatment system markedly improving the outward visibility and the comfort level for machine operators.

(5) Maximize Uptime

Yanmar's engines utilize a Diesel Particulate Filter^{※4} (DPF) to reduce Particulate Matter^{※3} (PM) and a Selective Catalytic Reduction (SCR^{※5}) system to reduce harmful emissions. These technologies, which have been refined from our experience developing smaller engines, allow the 4TN101 and 4TN107 to comply with EU Stage V regulations. With these systems in place, our customers can continue to operate their vehicles without having to stop, even at high-altitude or in low-temperature environments, or when working with light or heavy loads.

(6) Wide Power Range

The 4TN101 and 4TN107 produce outputs ranging from 55 to 105 kW and 90 to 155kW,

allowing our customers to utilize their engine in a wide range of machinery with various output needs.



4TN101 Industrial Diesel Engine

New Industrial Diesel Engine Website:

<https://www.yanmar.com/global/engine/new-models/>

- ※1 Based upon the comparison of average industry standards with our test results.
- ※2 Power Density is the power output (kW) per displacement (liter).
- ※3 PM: Refers to particulate matter, such as suspended particulate like soot.
- ※4 DPF: A Filter device designed to remove particulate matter (PM) from diesel exhaust.
- ※5 SCR: The Urea SCR (Selective Catalytic Reduction) system utilizes ammonia generated from urea water, to deoxidize, cleanse, and detoxify NOx contained in the exhaust gas.

Product Summary:

Model Name: 4TN101/4TN107

Start of Production:

4TN101: Year 2020

4TN107: Year 2019

Specifications:

Model	4TN101(Standard Output)			4TN101(High Output)	
Emission Compliance	EU Stage V / EPA Final Tier4				
Fuel Injection	Direct Injection (DI)				
Fuel Injection System	Common Rail				
Aspiration	Turbocharger with Charged Air Cooler (CAC)				
EGR	Cooled EGR				
After Treatment System (ATS)	DOC+DPF+SCR				
No. of Cylinders	4				
Bore x Stroke (mm)	101*120				
Displacement (Liter)	3.8				
Rated Output (kW/min ⁻¹)	77/2,000	85/2,200	85/2,400	96/2,000	105/2,200
Max. Torque (Nm/min ⁻¹)	445/1,500			550/1,500	
Low Speed Torque (Nm/min ⁻¹)	370/1,000			455/1,000	
Length*Width*Height (mm)	890*630*870 (w/o ATS)				
Weight (Dry) (kg)	420 (w/o FAN, ATS)				

Model	4TN107 (Single Turbo)			4TN107 (2 Stage Turbo)		
Emission Compliance	EU Stage V / EPA Final Tier4					
Fuel Injection	Direct Injection (DI)					
Fuel Injection System	Common Rail					
Aspiration	Single Turbocharger with Charged Air Cooler (CAC)			Two Stage Turbocharger with Charged Air Cooler (CAC)		
EGR	Cooled EGR					
After Treatment System (ATS)	DOC+DPF+SCR					
No. of Cylinders	4					
Bore x Stroke (mm)	107*127					
Displacement (Liter)	4.6					
Rated Output (kW/min ⁻¹)	90/1,800	100/2,000	110/2,200	127/1,800	141/2,000	155/2,200
Max. Torque (Nm/min ⁻¹)	602/1,350	602/1,500	602/1,500	805/1,350	805/1,500	805/1,500
Low Speed Torque (Nm/min ⁻¹)	460/1,000			604/1,000		
Length*Width*Height (mm)	940*650*940 (w/o ATS)			940*730* 940 (w/o ATS)		
Weight (Dry) (kg)	540 (w/o FAN, ATS)			550 (w/o FAN, ATS)		

<About Yanmar>

With beginnings in Osaka, Japan in 1912, Yanmar was the first ever to succeed in making a compact diesel engine of a practical size in 1933. Moving on, with industrial diesel engines as the cornerstone of the enterprise, Yanmar has continued to expand its product range, services, and expertise to deliver total solutions as an industrial equipment manufacturer. As a provider of small and large engines, agricultural machinery and facilities, construction equipment,

energy systems, marine, machine tools, and components — Yanmar’s global business operations span seven domains.

On land, at sea, and in the city, Yanmar’s Mission of “providing sustainable solutions focused on the challenges customers face, in food production and harnessing power, thereby enriching people’s lives for all our tomorrows,” stands testament to Yanmar’s determination to provide us with “A Sustainable Future”.

For more details, please check out the official website of Yanmar Co., Ltd.:
<https://www.yanmar.com/global/about/>