



**YANMAR**

PRODUCT GUIDE



# **INDUSTRIAL ENGINES**

POWER RANGE [ 3.4~155.0kW ]

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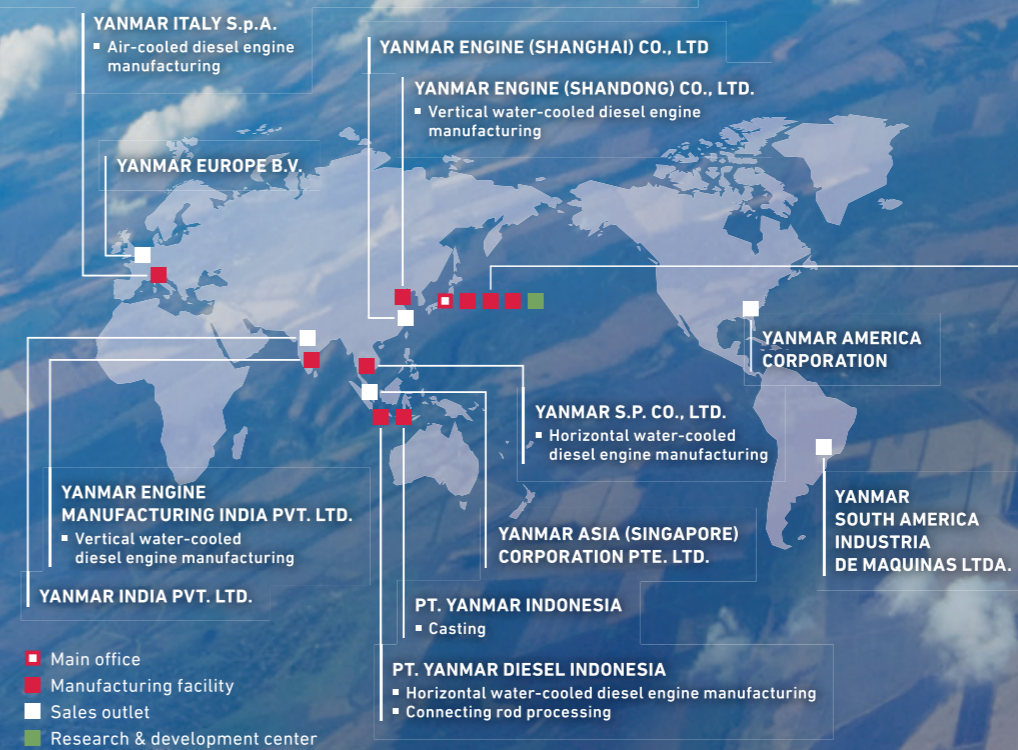
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# World Leading Innovation towards a Better Tomorrow

Yanmar's industrial engines are used in a wide range of machinery around the globe. Creator of the world's first compact, practical-use diesel engine, Yanmar has a legacy of using technology to deliver optimal solutions for society. With its innovative technology and strong global stance, Yanmar is working to realize prosperous lives in harmony with nature.

## MANUFACTURING & SALES NETWORK



**YANMAR HOLDINGS CO., LTD.**  
**YANMAR POWER TECHNOLOGY CO., LTD.**



**BIWA FACTORY**  
▪ Vertical water-cooled diesel engine manufacturing  
▪ Vertical water-cooled gas engine manufacturing



**IBUKI FACTORY**  
▪ Vertical water-cooled diesel engine manufacturing  
▪ Transmission manufacturing

**YANMAR CASTING TECHNOLOGY CO., LTD.**  
▪ Casting

**RESEARCH & DEVELOPMENT CENTER**  
▪ R&D Center



10 millionth vertical water-cooled engine [ 4TNV98CT ]

## Yanmar celebrates 10 million-unit production of vertical water-cooled engines on Jan. 22, 2019

Yanmar vertical water-cooled engines have been manufactured since 1968 as a core-product of our industrial engine business. They are currently manufactured mainly at the Biwa and Ibuki Factories, as well as Yanmar Engine Shandong. As a first company to succeed in commercializing small and practical size diesel engine in 1933, Yanmar has met the ever-strict standards of exhaust emissions while pursuing low fuel consumption and high power with industry-leading technology. With the achievement of this milestone, we will continue to work on development and production of high-quality, highly reliable engines that meet the diverse needs of our customers.



VERTICAL SINGLE CYLINDER AIR-COOLED DIESEL ENGINES

Max. Output 3.4~7.4kW

**L[-N,-V,-W] Series**

- Direct Injection (DI)
- Compact & Easy Installation
- High Power & Low Fuel Consumption
- Low Noise & Low Vibration
- Easy Operation & Maintenance



SPECIFICATIONS [L-N Series]

Engine Model	L48N	L70N	L100N
Emission Compliance		-	
Aspiration		Naturally Aspirated	
Fuel Injection		Direct Injection (DI)	
No. of Cylinders		1	
Bore × Stroke	mm 70 × 57	78 × 67	86 × 75
Displacement	liter 0.219	0.320	0.435
Maximum Rated Output	kW(PS) 3.5 (4.8)	4.9 (6.7)	7.4 (10.1)
	min <sup>-1</sup> 3,600	3,600	3,600
Dry Weight (Recoil type)	kg 27.0	36.0	48.5
Dimensions (L × W × H)	mm 332 × 384 × 417	378 × 422 × 453	412 × 471 × 494

SPECIFICATIONS [L-V Series for EU, JAPAN (L70V L100V only)]

Engine Model	L48V	L70V	L100V
Emission Compliance		EU StageV	
Aspiration		Naturally Aspirated	
Fuel Injection		Direct Injection (DI)	
ATS (After Treatment System)	DOC	-	
No. of Cylinders		1	
Bore × Stroke	mm 70 × 57	78 × 67	86 × 75
Displacement	liter 0.219	0.320	0.435
Maximum Rated Output	kW(PS) 3.4 (4.6)	4.8 (6.5)	6.8 (9.2)
	min <sup>-1</sup> 3,600	3,600	3,600
Dry Weight (Recoil type)	kg 29.5	36.0	48.5
Dimensions (L × W × H)	mm 332 × 448 × 426	378 × 422 × 453	412 × 471 × 494

SPECIFICATIONS [L-W Series for US]

Engine Model	L70W	L100W
Emission Compliance	EPA · CARB Final Tier4	
Aspiration	Naturally Aspirated	
Fuel Injection	Direct Injection (DI)	
ATS (After Treatment System)	DOC	
No. of Cylinders	1	
Bore × Stroke	mm 78 × 67	86 × 75
Displacement	liter 0.320	0.435
Maximum Rated Output	kW(PS) 4.8 (6.5)	6.8 (9.2)
	min <sup>-1</sup> 3,600	3,600
Dry Weight (Recoil type)	kg 38.0	48.5
Dimensions (L × W × H)	mm 395 × 448 × 472	429 × 472 × 494



YANMAR ITALY S.p.A.

COMPACT DIESEL ENGINES

Max. Output 14.7~18.2kW

**TNM Series**

- Compact & High Power Density
- Low Fuel Consumption
- Comply to EU StageV and EPA · CARB Final Tier4 (3TNM74F)
- Low Noise & Low Vibration
- Easy Installation



SPECIFICATIONS

Engine Model	3TNM68	3TNM72	3TNM74F
Emission Compliance	EU Stage V		EU Stage V / EPA · CARB Final Tier4
Aspiration	Naturally Aspirated		
Fuel Injection	Indirect Injection (IDI)		
No. of Cylinders	3		
Bore × Stroke	mm 68 × 72	72 × 74	74 × 77
Displacement	liter 0.784	0.903	0.993
Maximum Rated Output	kW(PS) 14.7 (20.0)	18.2 (24.7)	17.8 (24.2)
Gross	min <sup>-1</sup> 3,600	3,600	3,600
Dry Weight (W/backplate)	kg 77.0	83.0	83.0
Dimensions (L × W × H)	mm 431 × 416 × 500	450 × 416 × 506	456 × 416 × 537

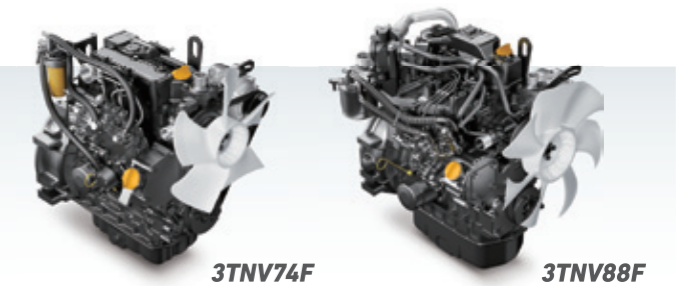
DIESEL ENGINES

Max. Output 14.2~18.4kW

**TNV Series under 19kW**

[ Comply to EU StageV / EPA · CARB Final Tier4 ]

- Low Fuel Consumption
- Comply to EU StageV and EPA · CARB Final Tier4
- Low Noise & Low Vibration
- Compact & Easy Installation
- Electronic Governor System (Except 3TNV74F)



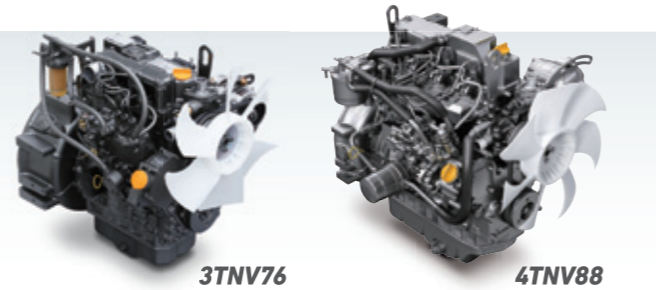
SPECIFICATIONS

Engine Model	3TNV74F	3TNV80F	3TNV80F-Z	3TNV80FT	3TNV88F
Emission Compliance	EU Stage V / EPA · CARB Final Tier4				
Aspiration	Naturally Aspirated			Turbocharged	Naturally Aspirated
Fuel Injection	Indirect Injection (IDI)				Direct Injection (DI)
Governor System	Mechanical			Electronic	
No. of Cylinders	3				
Bore × Stroke	mm 74 × 77	80 × 84		88 × 90	
Displacement	liter 0.993	1.266		1.642	
Maximum Rated Output	kW(PS) 14.2 (19.3)	18.4 (25.0)		18.2 (24.7)	
	min <sup>-1</sup> 3,000	3,000	2,800	2,600	2,400
Dry Weight (W/backplate)	kg 103	117	124		171
Dimensions (L × W × H)	mm 504 × 441 × 542	523 × 427 × 532		523 × 450 × 652	593 × 577 × 697

# TNV Series

[ \* EU StageV (19kW<) ]

- Low Fuel Consumption
- Reliable & Durable Power for Various Applications
- Low Noise & Low Vibration
- Compact & Easy Installation
- Outstanding Cold Startability



SPECIFICATIONS

Engine Model	2TNV70	3TNV70	3TNV76	3TNV82A(-B)
Emission Compliance	[* EU Stage V]			
Aspiration	Naturally Aspirated			
Fuel Injection	Indirect Injection (IDI)			Direct Injection (DI)
Governor System	Mechanical			
EGR	-			
No. of Cylinders	2	3		
Bore × Stroke	mm 70 × 74	70 × 74	76 × 82	82 × 84
Displacement	liter 0.569	0.854	1.115	1.330
Maximum Rated Output	kW(PS) 10.6 (14.4) [* 10.5(14.3)]	17.6 (23.9) [* 17.0(23.1)]	21.7(29.5) [* 18.9(25.7)]	23.0(31.3) [* 18.9(25.7)]
Gross	min <sup>-1</sup> 3,600 [* 3,600]	3,600 [* 3,600]	3,600 [* 3,000]	3,000 [* 2,500]
Dry Weight (W/backplate)	kg 73	87	94	111
Dimensions (L × W × H)	mm 415 × 427 × 484	504 × 427 × 506	535 × 455 × 574	520 × 489 × 565

Engine Model	3TNV88(-B)	3TNV84T(-B)	4TNV88(-B)	4TNV88(-Z)	4TNV84T(-B)	4TNV84T(-Z)
Emission Compliance	[* EU Stage V]					
Aspiration	Naturally Aspirated	Turbocharged	Naturally Aspirated	Turbocharged		
Fuel Injection	Direct Injection (DI)					
Governor System	Mechanical		Electronic	Mechanical	Electronic	
EGR	-		-		Cooled EGR	
No. of Cylinders	3		4			
Bore × Stroke	mm 88 × 90	84 × 90	88 × 90		84 × 90	
Displacement	liter 1.642	1.496	2.189		1.995	
Maximum Rated Output	kW(PS) 28.2(38.3) [* 18.4(25.0)]	30.1 (41.0)	36.9 (50.2)		42.7 (58.1)	
Gross	min <sup>-1</sup> 3,000 [* 2,000]	2,800	3,000		2,600	
Dry Weight (W/backplate)	kg 138	150	155		175	
Dimensions (L × W × H)	mm 588 × 486 × 648	680 × 507 × 755	655 × 499 × 643		730 × 519 × 710	

Engine Model	4TNV94L(-B)	4TNV94L(-Z)	4TNV98(-Z)	4TNV98T(-Z)	4TNV106	4TNV106T
Emission Compliance	[* EU Stage V]					
Aspiration	Naturally Aspirated		Turbocharged	Naturally Aspirated	Turbocharged	
Fuel Injection	Direct Injection (DI)					
Governor System	Mechanical	Electronic		Mechanical		
EGR	-		Hot EGR	Cooled EGR	-	
No. of Cylinders	4					
Bore × Stroke	mm 94 × 110	98 × 110		106 × 125		
Displacement	liter 3.053	3.318		4.412		
Maximum Rated Output	kW(PS) 44.0 (59.8)	35.5 (48.3)	52.1 (70.8)	63.9 (86.9)	70.8 (96.3)	74.2 (100.9)
Gross	min <sup>-1</sup> 2,500	2,400	2,500		2,500	2,200
Dry Weight (W/bell housing)	kg 235	240		260	330	340
Dimensions (L × W × H)	mm 719 × 498 × 742	737 × 581 × 715	719 × 540 × 717	805 × 570 × 927	776 × 629 × 803	776 × 629 × 866

# TNV Common Rail Series over 19kW

[ Comply to EU StageV / EPA · CARB Final Tier4 ]

- Tough & Reliable Power
- Best in its Class Fuel Consumption
- Comply to EU StageV and EPA · CARB Final Tier4
- Wide Line-Up
- No Scheduled Maintenance DPF for 6,000 Hours

( DPF is the filter device designed to remove particulate matter(PM) from exhaust gas)



SPECIFICATIONS

Engine Model	3TNV88C	3TNV86CT	3TNV86CHT
Emission Compliance	EU Stage V / EPA · CARB Final Tier4		
Aspiration	Naturally Aspirated	Turbocharged	Turbocharged With CAC
Fuel Injection	Common Rail Direct Injection (CRDI)		
ATS (After Treatment System)	DOC + DPF		
No. of Cylinders	3		
Bore × Stroke	mm 88 × 90	86 × 90	
Displacement	liter 1.642	1.568	
Maximum Rated Output	kW(PS) 27.5 (37.4)	32.4 (44.1)	33.3 (45.3)
Gross	min <sup>-1</sup> 3,000	3,000	2,600
Dry Weight (W/ATS)	kg 170	175	175
Dimensions (L × W × H)	mm 781 × 541 × 724 *	781 × 541 × 762 *	

Engine Model	4TNV88C	4TNV86CT	4TNV86CHT
Emission Compliance	EU Stage V / EPA · CARB Final Tier4		
Aspiration	Naturally Aspirated	Turbocharged	Turbocharged With CAC
Fuel Injection	Common Rail Direct Injection (CRDI)		
ATS (After Treatment System)	DOC + DPF		
No. of Cylinders	4		
Bore × Stroke	mm 88 × 90	86 × 90	
Displacement	liter 2.190	2.091	
Maximum Rated Output	kW(PS) 35.5 (48.3)	44.0 (59.8)	48.5 (65.9)
Gross	min <sup>-1</sup> 3,000	3,000	2,600
Dry Weight (W/ATS)	kg 205	210	210
Dimensions (L × W × H)	mm 871 × 541 × 714 *	894 × 549 × 757 *	

Engine Model	4TNV98C	4TNV98CT	4TNV94FHT
Emission Compliance	EU Stage V / EPA · CARB Final Tier4		
Aspiration	Naturally Aspirated	Turbocharged	Turbocharged With CAC
Fuel Injection	Common Rail Direct Injection (CRDI)		
ATS (After Treatment System)	DOC + DPF		DOC + DPF + SCR
No. of Cylinders	4		
Bore × Stroke	mm 98 × 110	94 × 110	
Displacement	liter 3.318	3.053	
Maximum Rated Output	kW(PS) 51.7 (70.3)	53.7 (73.0)	88.4 (120.2)
Gross	min <sup>-1</sup> 2,500	2,500	2,500
Dry Weight (W/ATS)	kg 270	275	357
Dimensions (L × W × H)	mm 983 × 571 × 806 *	963 × 600 × 821 *	752 × 760 × 1,147 **

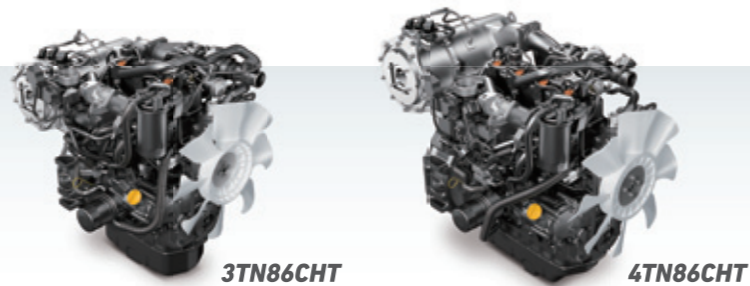
\*: DPF on Flywheel Housing \*\*: ATS on Top of Engine

# TN Common Rail Series

[ Comply to EU StageV / EPA · CARB Final Tier4 ]

over 19kW to 56kW

- Higher Power
- Compact ATS & Down Sizing
- Low Fuel Consumption
- Low Noise



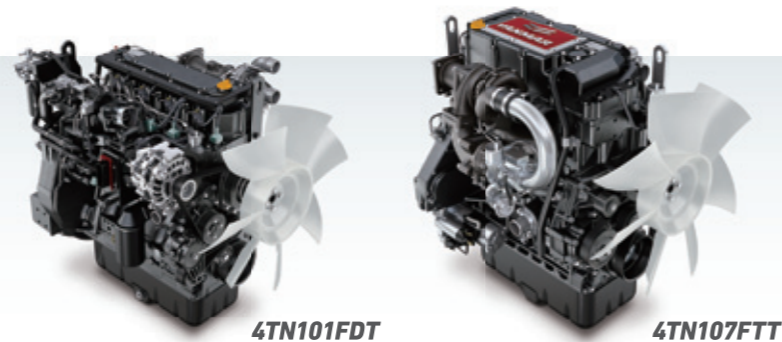
SPECIFICATIONS

Engine Model	3TN86CHT	4TN86CHT
Emission Compliance	EU Stage V / EPA · CARB Final Tier4	
Aspiration	Turbocharged With CAC	
Fuel Injection	Common Rail Direct Injection (CRDI)	
ATS (After Treatment System)	DOC + DPF	
No. of Cylinders	3	4
Bore × Stroke	mm 86 × 90	86 × 90
Displacement	liter 1.568	2.091
Maximum Rated Output	kW(PS) 40.1 (54.5)	55.4 (75.3)
	min <sup>-1</sup> 2,600	2,600
Dry Weight (W/ATS)	kg 200	247
Dimensions (L × W × H)	mm 775 × 541 × 762 *	911 × 546 × 760 *

\*: DPF on Flywheel Housing

over 56kW to 155kW

- Best in Class Fuel Consumption
- High Power Density
- Outstanding Torque
- Compact Engine & ATS
- Maximize Uptime
- Wide Power Range



SPECIFICATIONS

Engine Model	4TN101FHT	4TN101FDT	4TN107FHT	4TN107FTT
	Standard Output	High Output	Single Turbo	2 Stage Turbo
Emission Compliance	EU Stage V / EPA · CARB Final Tier4			
Aspiration	Single T/C With CAC		Single T/C With CAC	2 Stage T/C With CAC
Fuel Injection	Common Rail Direct Injection (CRDI)			
ATS (After Treatment System)	DOC + DPF + SCR			
No. of Cylinders	4			
Bore × Stroke	mm 101 × 120.03	107 × 127.09		
Displacement	liter 3.847	4.571		
Maximum Rated Output	kW(PS) 85.0 (115.6)	105.0 (142.8)	110.0 (149.6)	155.0 (210.7)
	min <sup>-1</sup> 2,200	2,200	2,200	2,200
Dry Weight (W/O ATS)	kg 464	545	560	
Dimensions (L × W × H) (W/O ATS)	mm 955 × 623 × 854	972 × 639 × 939		977 × 743 × 939

# TN-G Series

- Higher Specific Power and Torque Compared to Diesel Engines
- Class Leading Fuel Efficiency
- Endurance and Reliability of Diesel Engine Block
- Compact Engine Configuration
- Compatibility with TNV Diesel Engines



SPECIFICATIONS

Engine Model	4TN88G	4TN98G
Emission Compliance	EPA Tier2 / CARB for Off-road LSI engine / EU Stage V	
Fuel Type	LPG	
Aspiration	Naturally Aspirated	
Combustion System	Spark Ignition / Pre-mixed / Stoichiometry	
ATS (After Treatment System)	Three Way Catalyst	
No. of Cylinders	4	
Bore × Stroke	mm 88 × 90	98 × 110
Displacement	liter 2.190	3.318
Rated Output	kW(PS) 44.2 (60.1)	63.0 (85.7)
(WOT*/Gross Intermittent)	min <sup>-1</sup> 2,600	2,500
Dry Weight (W/O ATS)	kg 175	240
Dimensions (L × W × H) (W/O ATS)	mm 659 × 535 × 701	725 × 577 × 796

\*: Wide open throttle

# TNE Series for Forklift Application

- Most Suitable Engine for Forklift Application
- Low Noise & Low Vibration
- Reliable & Durable
- Compact Size



SPECIFICATIONS

Engine Model	4TNE92	4TNE94L	4TNE98
Aspiration	Naturally Aspirated		
Fuel Injection	Indirect Injection (IDI)		
No. of Cylinders	4		
Bore × Stroke	mm 92 × 100	94 × 110	98 × 110
Displacement	liter 2.659	3.053	3.318
Maximum Rated Output	kW(PS) 33.9 (46.1)	34.6 (47.0)	42.1 (57.2)
Net	min <sup>-1</sup> 2,450	2,200	2,300
Dry Weight (W/backplate)	kg 220	225	225
Dimensions (L × W × H)	mm 633 × 520 × 711	709 × 528 × 706	712 × 533 × 718

# TN-S for India, South Asian and Emerging Regions

- Class Leading Fuel Efficiency
- Aggressive Torque
- Compact & Rugged
- Low Noise & Low Vibration
- Meet to India CEV BS III / Tractor BS IIIA  
(Ready for Upcoming CEMM Regulations)



4TN98S

SPECIFICATIONS

Engine Model	4TN98S
Emission Compliance Level	Construction Equipment Vehicle Bharat Stage III (CEV BSIII) Bharat StagellIA (Tractor)
Aspiration	Naturally Aspirated
Fuel Injection	Direct Injection (DI)
ATS (After Treatment System)	-
No. of Cylinders	4
Bore × Stroke	mm 98 × 110
Displacement	liter 3.319
Maximum Rated Output	kW(PS) 36.3 (49.4) min <sup>-1</sup> 2,100
Dry Weight (W/backplate)	kg 235
Dimensions (L × W × H)	mm 740 × 495 × 750

# TF/TS Series

- High Power & Low Fuel Consumption
- Low oil consumption
- Easy maintenance and operations



TF150NL

SPECIFICATIONS [TF Series, DI]

\*: For Indonesia \*\*: New Appearance

Engine Model	TF65 *	TF70	TF85 *	TF90	TF105 *	TF110
Aspiration	Naturally Aspirated					
Fuel Injection	Direct Injection (DI)					
No. of Cylinders	1					
Bore × Stroke	mm 78 × 80		85 × 87		88 × 96	
Displacement	liter 0.382		0.493		0.583	
Maximum Rated Output	kW(PS) 4.8 (6.5)	5.1 (7.0)	6.3 (8.5)	7.0 (9.5)	8.1 (11.0)	
	min <sup>-1</sup> 2,200	2,400	2,200	2,400	2,400	
Dry Weight (Hopper type)	kg 67		93		107	
Dimensions (L × W × H)	mm 605 × 323 × 489		682 × 340 × 481		746 × 352 × 530	

Engine Model	TF115 *	TF120	TF150NL **	TF155 *	TF160	TF300
Aspiration	Naturally Aspirated					
Fuel Injection	Direct Injection (DI)					
No. of Cylinders	1					
Bore × Stroke	mm 92 × 96		96 × 99	102 × 105		125 × 120
Displacement	liter 0.638		0.716	0.857		1.472
Maximum Rated Output	kW(PS) 8.8 (12.0)		11.0 (15.0)	11.8 (16.0)		22.1 (30.0)
	min <sup>-1</sup> 2,400		2,400	2,400		2,400
Dry Weight (Hopper type)	kg 107		120	140		252
Dimensions (L × W × H)	mm 746 × 352 × 530		788 × 377 × 514	777 × 384 × 607		954 × 497 × 798

SPECIFICATIONS [TS Series, DI]

Engine Model	TS190	TS230
Aspiration	Naturally Aspirated	
Fuel Injection	Direct Injection (DI)	
No. of Cylinders	1	
Bore × Stroke	mm 110 × 106	112 × 115
Displacement	liter 1.007	1.132
Maximum Rated Output	kW(PS) 14.0 (19.0)	16.9 (23.0)
	min <sup>-1</sup> 2,200	2,200
Dry Weight	kg 186	203
Dimensions (L × W × H)	mm 894 × 455 × 737	966 × 469 × 812

SPECIFICATIONS [TF-W Series, IDI]

Engine Model	TF85WL	TF105WL	TF115WL
Aspiration	Naturally Aspirated		
Fuel Injection	Indirect Injection (IDI)		
No. of Cylinders	1		
Bore × Stroke	mm 85 × 87	88 × 96	92 × 96
Displacement	liter 0.493	0.538	0.638
Maximum Rated Output	kW(PS) 6.3 (8.5)	7.7 (10.5)	8.5 (11.5)
	min <sup>-1</sup> 2,400	2,400	2,400
Dry Weight (Hopper type)	kg 93	107	107
Dimensions (L × W × H)	mm 704 × 377 × 505	788 × 377 × 510	

SPECIFICATIONS [TF-V Series, IDI for Japan only]

Engine Model	TF70V	TF90V	TF120V
Aspiration	Naturally Aspirated		
Fuel Injection	Indirect Injection (IDI)		
No. of Cylinders	1		
Bore × Stroke	mm 78 × 80	85 × 87	92 × 96
Displacement	liter 0.382	0.493	0.638
Maximum Rated Output	kW(PS) 5.5 (7.5)	7.0 (9.5)	8.8 (12.0)
	min <sup>-1</sup> 2,600	2,600	2,400
Dry Weight (Hopper type)	kg 78	97	116
Dimensions (L × W × H)	mm 667 × 330 × 474	725 × 342 × 500	744 × 362 × 535



P.T. YANMAR DIESEL INDONESIA