



YANMAR

DIESEL ENGINES

TNV / TN Series PowerPack

Rated Output: 6.1- 61.7kW



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EPA Tier 3 / Interim Tier4 / Tier4
EU StageIIA / StageIIIA

The Wide Output Lineup of TNV/TNM Power Packs

The TNV/TNM power pack series covers a wide horsepower range. The lineup consists of four engine groups, each with the optimum design for that output range:



TNM series (3TNM68, 3TNM72)

Ultra-Compact and High Performance. The ladder frame engine structure reduces the noise and vibration. Easy installation and replacement, the perfect fit for your machine.

Series 1 (3TNV70, 3TNV76)

Uses the newly developed intake port for the Indirect Injection (IDI) combustion chamber. A newly designed inline FO injection pump replaces the conventional PFR system to reduce exhaust gas emissions and enhance reliability.

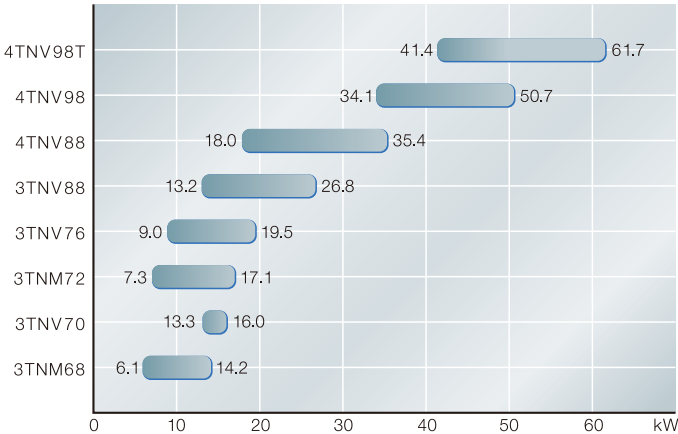
Series 2 (3TNV88, 4TNV88)

Uses the newly developed high-pressure mono-plunger FO injection pump, which controls the evenness of fuel injection to each cylinder. A finely chosen nozzle installation angle produces better mixing of the fuel and air to achieve more effective, cleaner combustion.

Series 3 (4TNV98, 4TNV98T)

Uses 2 intake and 2 exhaust valves and an upright nozzle to improve intake and exhaust efficiency. These valves greatly boost combustion performance, hugely reducing exhaust emissions while maintaining the dynamic and persevering power of the engine. Uses Electronic Control system and EGR system to reduce NOx emission --- 4TNV98(T)-Z

OUTPUT RANGE CHART



ENGINE SPEC SELECTION CODE

Power Pack Group				TNM series		TNV series					
Application				3TNM68	3TNM72	3TNV70	3TNV76	3TNV88(-B)	4TNV88(-B)	4TNV98(-Z)	4TNV98T(-Z)
Group A	Induspack	General industrial use		-AS	-AS	-	-CS	-DS	-DS	-NS	-NS
	Genepack A	Generator use (open type)	2-pole	-HA	-HA	-	-	-	-	-	-
			4-pole	-GA	-GA	-	-GA	-GA	-GA	-GA	-GA
Group B	Genepack B	Generator use (enclosed type)	2-pole	-	-	-HB	-HB	-	-	-	-
			4-pole	-	-	-	-GB	-GB	-GB	-GB	-GB

SPECIFICATIONS

Model	3TNM68	3TNM72	3TNV70	3TNV76	3TNV88(-B)	4TNV88(-B)	4TNV98(-Z)	4TNV98T(-Z)
Type	Vertical 4-cylinder water cooled diesel engine							
Combustion	Indirect injection				Direct injection			
Aspiration	NA							TC
No. of cylinders	3					4		
Cyl. bore x stroke [mm]	68X72	72X74	70X74	76X82	88X90		98X110	
Displacement [lit.]	0.784	0.904	0.854	1.116	1.642	2.190	3.319	
Direction of rotation	Counterclockwise							
Cooling system	Radiator							
Lubrication system	Forced lubrication by trochoid pump							
Starting system	Starting motor (D.C. 12V)							

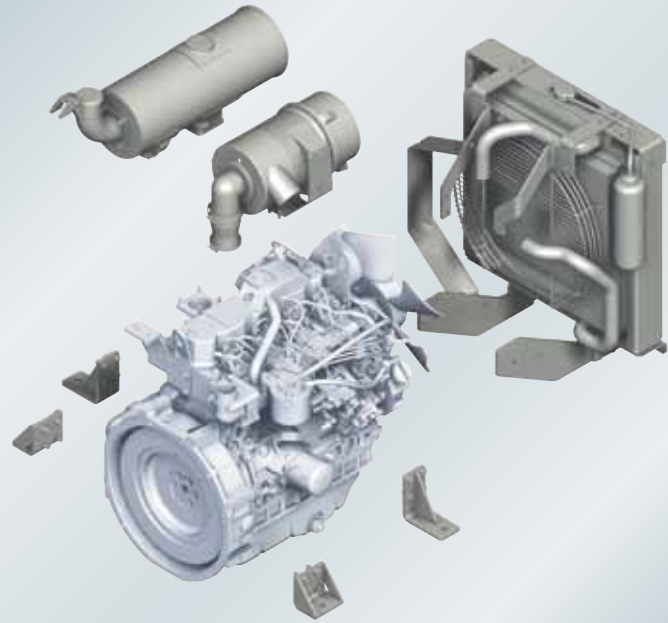
OUTPUT

Industrial use (Induspack)	Model	3TNM68	3TNM72	3TNV76	3TNV88(-B)	4TNV88(-B)	4TNV98-Z	4TNV98T-Z
	Code	-AS	-AS	-CS	-DS	-DS	-NS	-NS
	Rated output [kW/min ⁻¹]	14.1/3600	17.1/3600	18.7/3200	26.8/3000	35.4/3000	50.7/2500	61.7/2500

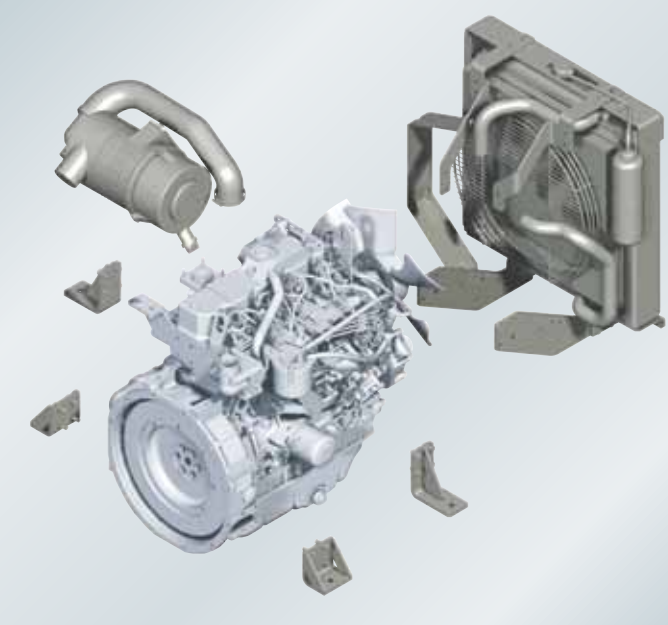
					TNM series				TNV series							
Generator use (Genepack)	Model				3TNM68	3TNM68	3TNM72	3TNM72	3TNV70	3TNV76	3TNV76	3TNV88(-B)	4TNV88(-B)	4TNV98	4TNV98T	
	Code				-HA	-GA	-HA	-GA	-HB	-HB	-GA,GB	-GA,GB	-GA,GB	-GA,GB	-GA,GB	
		No. of poles	50 or 60Hz	Rating												
	Engine output [kW/min ⁻¹]	2-pole	for 50Hz @3000min ⁻¹	Prime power	10.9	-	13.0	-	12.1	15.1	-	-	-	-	-	
				Rated output	12.0	-	14.3	-	13.3	16.5	-	-	-	-	-	
			for 60Hz @3600min ⁻¹	Prime power	12.9	-	15.1	-	14.5	17.7	-	-	-	-	-	-
				Rated output	14.2	-	16.6	-	16.0	19.5	-	-	-	-	-	-
		4-pole	for 50Hz @1500min ⁻¹	Prime power	-	5.5	-	6.6	-	-	-	8.2	12.2	16.4	30.7	37.7
				Rated output	-	6.1	-	7.3	-	-	-	9.0	13.2	18.0	34.1	41.4
			for 60Hz @1800min ⁻¹	Prime power	-	6.6	-	7.8	-	-	-	9.8	14.7	19.6	36.4	45.3
Rated output				-	7.3	-	8.6	-	-	-	10.7	16.2	21.6	40.8	50.1	
Applicable Generator Capacity [kVA]	2-pole	for 50Hz @3000min ⁻¹	Prime power	11.2	-	13.3	-	12.4	16.0	-	-	-	-	-		
			Rated output	12.3	-	14.8	-	13.6	17.1	-	-	-	-	-		
		for 60Hz @3600min ⁻¹	Prime power	13.2	-	15.7	-	15.0	18.4	-	-	-	-	-	-	
			Rated output	14.7	-	17.2	-	16.6	20.2	-	-	-	-	-	-	
	4-pole	for 50Hz @1500min ⁻¹	Prime power	-	5.3	-	6.6	-	-	-	8.4	12.6	17.0	33.2	41.2	
			Rated output	-	5.9	-	7.5	-	-	-	9.2	13.5	18.7	36.7	45.0	
		for 60Hz @1800min ⁻¹	Prime power	-	6.6	-	8.0	-	-	-	10.0	15.4	20.6	40.0	50.0	
			Rated output	-	7.5	-	8.8	-	-	-	11.0	16.8	22.7	44.4	55.0	

ACCESSORIES

Group A (-AS, CS, DS, NS, GA, HA)



Group B (-GB, HB)



Generator use

Generator use		TNM series		TNV series										○: Installed on engine, □: Option	
	Model	3TNM68	3TNM72	3TNV70	3TNV76		3TNV88		4TNV88		4TNV98		4TNV98T		
	Code	-GA, -HA	-GA, -HA	-HB	-GA	-GB, -HB	-(B)GA	-(B)GB	-(B)GA	-(B)GB	-GA	-GB	-GA	-GB	
Fuel system	Fuel filter	○	○	○	○	○	○	○	○	○	○	○	○	○	
	Mechanical feed pump	○	○	○	○	○	-	-	-	-	-	-	-	-	
	Electric feed pump	-	-	-	-	-	○	○	○	○	○	○	○	○	
Lube system	Oil pan	○	○	○	○	○	○	○	○	○	○	○	○	○	
	L.O. press switch (0.5kg/cm²)	○	○	○	○	○	○	○	○	○	○	○	○	○	
Cooling system	Pusher fan	○	○	○	○	○	○	○	○	○	○	○	○	○	
	Thermostat	○	○	○	○	○	○	○	○	○	○	○	○	○	
	C.W. temp. switch (on at 110 deg. C)	○	○	○	○	○	○	○	○	○	○	○	○	○	
Electrical system	Starting motor	○	○	○	○	○	○	○	○	○	○	○	○	○	
	Stop solenoid	○	○	○	○	○	○	○	○	○	○	○	○	○	
	Alternator (40A)	○	○	○	○	○	○	○	○	○	○	○	○	○	
	Glow plug	○	○	○	○	○	-	-	-	-	-	-	-	-	
	Air heater	-	-	-	-	-	○	○	○	○	○	○	○	○	
Intake and exhaust system	Intake manifold (lateral intake)	○	○	○	○	○	○	○	○	○	○	○	○	○	
	Exhaust manifold (upper side exhaust)	○	○	○	○	○	○	○	○	○	○	○	○	○	
	Turbocharger	-	-	-	-	-	-	-	-	-	-	-	○	○	
P.T.O.	SAE#5 (width: TNV=124, TNM=111)	○	○	○	○	○	-	-	-	-	-	-	-	-	
	Semi SAE#4 (width=105)	-	-	-	-	-	○	○	○	○	-	-	-	-	
	SAE#3 (width=125)	-	-	-	-	-	-	-	-	-	○	○	○	○	
Power pack parts	Air cleaner	○	○	○	○	○	○	○	○	○	○	○	○	○	
	Silencer	○	○	□ (loose)	□	□ (loose)	□	□ (loose)	□	□ (loose)	□	□ (loose)	□	□ (loose)	
	Speed control knob	□	□	□	□	□	□	□	□	□	□	□	□	□	
	Radiator	○	○	○	○	○	○	○	○	○	○	○	○	○	
	Engine foot	○	○	○	○	○	○	○	○	○	○	○	○	○	
	Instrument panel	□	□	□	□	□	□	□	□	□	□	□	□	□	

Industrial use

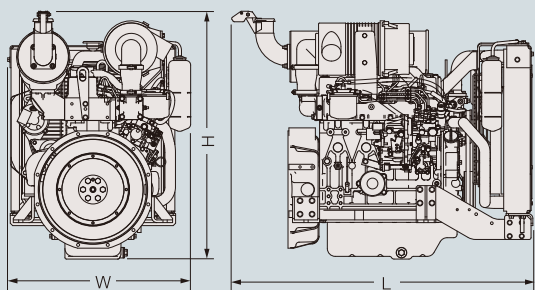
	Model Code	TNM series		TNV series				
		3TNM68 -AS	3TNM72 -AS	3TNV76 -CS	3TNV88 -(B)DS	4TNV88 -(B)DS	4TNV98 -ZNS	4TNV98T -ZNS
Fuel system	Fuel filter	○	○	○	○	○	○	○
	Mechanical feed pump	○	○	○	-	-	-	-
	Electric feed pump	-	-	-	○	○	○	○
Lube system	Oil pan (drain plug at intake side)	○	○	○	○	○	○	○
	L.O. press switch (0.5kg/cm ²)	○	○	○	○	○	○	○
Cooling system	Puller fan	○	○	○	○	○	○	○
	Thermostat	○	○	○	○	○	○	○
	C.W. temp. switch (on at 110 deg. C)	○	○	○	○	○	○	○
Electrical system	Starting motor	○	○	○	○	○	○	○
	Stop solenoid	○	○	○	○	○	-	-
	Electronic governor	-	-	-	-	-	○	○
	Alternator (40A)	○	○	○	○	○	-	-
	Alternator (55A)	-	-	-	-	-	○	○
	Glow plug	○	○	○	○(-B)	○(-B)	-	-
Intake and exhaust system	Air heater	-	-	-	○	○	○	○
	Intake manifold (lateral intake)	○	○	○	○	○	○	○
	Exhaust manifold (upper side exhaust)	○	○	○	○	○	○	○
	EGR system	-	-	-	-	-	○	○
P.T.O.	Turbocharger	-	-	-	-	-	-	○
	SAE#5 (width: TNV=124, TNM=111)	○	○	○	○	○	-	-
	SAE#4 (width=158)	-	-	-	-	-	○	○
Power pack parts	Air cleaner	○	○	○	○	○	○	○
	Silencer	○	○	○	○	○	○	○
	Speed control knob	□	□	□	□	□	□	□
	Radiator	○	○	○	○	○	○	○
	Engine foot	○	○	○	○	○	○	○
	Instrument panel	□	□	□	□	□	-	-
	Wire harness	-	-	-	-	-	○	○
	Accel sensor	-	-	-	-	-	○ (loose)	○ (loose)



3TNM68-AS

DIMENSIONS

Group A (-AS, CS, DS, NS, GA)



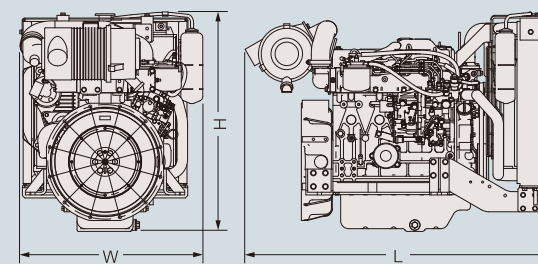
Genepack A (-GA, HA)

	TNM series		TNV series				
	3TNM68 -GA, -HA	3TNM72 -GA, -HA	3TNV76 -GA	3TNV88 -(B)GA	4TNV88 -GA	4TNV98 -GA	4TNV98T -GA
Length mm	751	722	745	821	1002	1041	938
Width mm	474	464	518	609	609	703	703
Height mm	668	683	696	792	824	926	925
Weight kg	132	138	158	180	210	280	284

Induspack (-AS, CS, DS, NS)

	TNM series		TNV series				
	3TNM68 -AS	3TNM72 -AS	3TNV76 -CS	3TNV88 -(B)DS	4TNV88 -(B)DS	4TNV98 -ZNS	4TNV98T -ZNS
Length mm	751	722	814	821	1002	1042	936
Width mm	474	464	514	609	609	701	701
Height mm	668	683	696	792	824	967	967
Weight kg	132	138	158	181	211	280	284

Group B (-GB, HB)



Genepack B (-GB, HB)

	TNV series		
	3TNV70 -HB	3TNV76 -GB	3TNV76 -HB
Length mm	798	814	814
Width mm	518	518	518
Height mm	683	672	694
Weight kg	143	153	153

	3TNV88	4TNV88	4TNV98	4TNV98T
	-(B)GB	-(B)GB	-GB	-GB
Length mm	875	1002	1155	1154
Width mm	609	609	703	703
Height mm	731	726	846	846
Weight kg	175	202	271	276