



**YANMAR CO.,LTD.**

G3-29247-0130

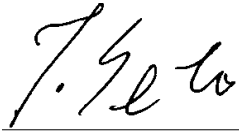


# **3TNV88-GGEA**

**for Generator**

**SPECIFICATIONS & DRAWINGS FOR MASS PRODUCTION**

**25.Apr.2008**

***YANMAR CO.,LTD.***

Contents					G3-29247-0130	
Drawing No.	Part No.	Name	Qty.	Remarks		
B3-29247-0170		Out line				
E3-29004-0050		Wiring Diagram				
Z3-71301-0031		Detail of Flywheel				
G3-29247-0130		Scope of Supply				
		LOOSE PARTS				
	129004-13200	GASKET, SILENCER	1			
	171375-39601	DAMPER(1/8	1			
	129044-44500	RADIATOR ASSY	1			
	124450-44510	TANK ASSY, SUB	1			
	124450-44550	CLAMP, SUB TANK	1			
	129601-44560	GUARD, FAN	1			
	121256-44600	BRACKET, SUB TANK	2			
	119255-44660	RUBBER, RADIATOR	1			
	129602-49010	PIPE, COOLING WATER	1	upper		
	129612-49040	PIPE, COOLING WATER	1	lower		
	119225-52102	PUMP, FUEL FEED	1			
	119802-55700	SEPARATOR ASSY	1			
	119643-66900	DIODE	1			
	119650-77910	RELAY ASSY, GLOW	1			
	129211-77920	TIMER, SECTION 1	1			
	119773-91501	SENDER, UNIT 12/24V	1			
	23010-038000	CLAMP, HOSE 38	2			
	23010-044000	CLAMP, HOSE 44	2			
	0ATNV-G00101	OPERATION MANUAL	1			
<b>Note :</b> ① Since the durability of electric parts basically apply to R2 level of JIS D0203, please inform the customer not to clean with steam or high pressure water. ② Electric parts should not mounted on the engine directly (relay, timer etc.) must be kept free from wet & high humidity and be kept with good air ventilation. Regarding the vibration of the electrical components, these vibration level must be kept less than 4G. ③ Since there is the possibility of corrosion problem on engine cylinder liner or other parts, please do not sell and use the engine with EGR valve in other than emission regulated area. (Emission regulated area means North America, Europe and Japan)			Engine Development Dept. Manager  Sec. Manager 			
	For Conference	For Apporval	For Installation	Final Drawing		
Customer					Checked	Drawn
Branch						Sakamoto
Exp. Dept.						
Copy						
Total						

	W.No.	3TNV88-GGEA
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# ENGINE SPECIFICATIONS

G3-29247-0130

No	Model name		3TNV88-GGEA		Remarks
1	Type		4 cycle, Inline, Water-cooled Diesel		
2	No. of cylinders-Bore×stroke		mm	3-φ88×90	
3	Combustion system		Direct Injection		
4	Compression ratio		19.1		
5	Displacement		litter	1.642	
6	Rated output		kW(PS)	13.2(17.9)/16.2(22)	
			min <sup>-1</sup>	1500/1800	
7	Continuous rating		kW(PS)	12.2(16.6)/14.7(20)	
			min <sup>-1</sup>	1500/1800	
8	Max. torque		N·m	~	
			min <sup>-1</sup>	(+/-)	
9	Specific fuel consumption		g/kW-h(g/PS-h)	245(180)	at rated output
10	Ambient condition		25°C、750mmHg、30%		
11	Engine speed at no load	Max.	min <sup>-1</sup>	1925	+25/-25
		Min.	min <sup>-1</sup>	1500	+25/-25
12	Governorability	Governor type	centrifugal-all speed governor		
		Temporary	%	max.10	load 100% ↓ 0%
		Permanent	%	max.5	
		Recovery time	sec	max.5	
		Stability	min <sup>-1</sup>	max.15	
13	Gradients	Longitudinal	deg	30(25)	intermitted ( ) : continuous
		Lateral	deg	30(25)	
14	Firing order		1-3-2-1		order from F.W.
15	Direction of rotation		counterclockwise		viewed from F.W.
16	Engine dry weight		kg	approx.155	
17	Fuel injection timing		deg	FIT16.5(+1/-1)	FIT b.T.D.C
18	Fuel system	Fuel type	Diesel oil		
		Fuel injection pump	Distributortype(YPD-MP2),Yanmar made		
		Fuel injection nozzle	hole type		
		Fuel filter	paper element		
19	Lubrication system	System	forced feed		
		Oil grade	API class CD, SAE grade 10W30		
		Oil pump	trochoid pump		
		Oil filter	paper element		
		Oil capacity	liter	6.7	max.
			liter	2.8	effective.
		Oil pressure	kgf/cm <sup>2</sup>	4	at rated output
			kgf/cm <sup>2</sup>	0.6	at low idle
20	Cooling system	Heat exchanger	none		
		Pressure cap	kgf/cm <sup>2</sup>	0.9	
		Fan	6-φ360		
		Coolant capacity	liter	2	

3TNV88-GGEA

# ENGINE SPECIFICATIONS

G3-29247-0130

No	Model name		3TNV88-GGEA	Remarks
21	Air cleaner		5inchi double Element Type	
22	Breather system		closed	
23	Muffler		none	
24	Starting system	Starter	12V-1.2kW	
		Battery	75D31	
		Starting aid	air heater 400W	
25	Generator		12V-40A	
26	Engine color		Silver	
27	Applied regulation			

<Career>

	W.No.	3TNV88-GGEA
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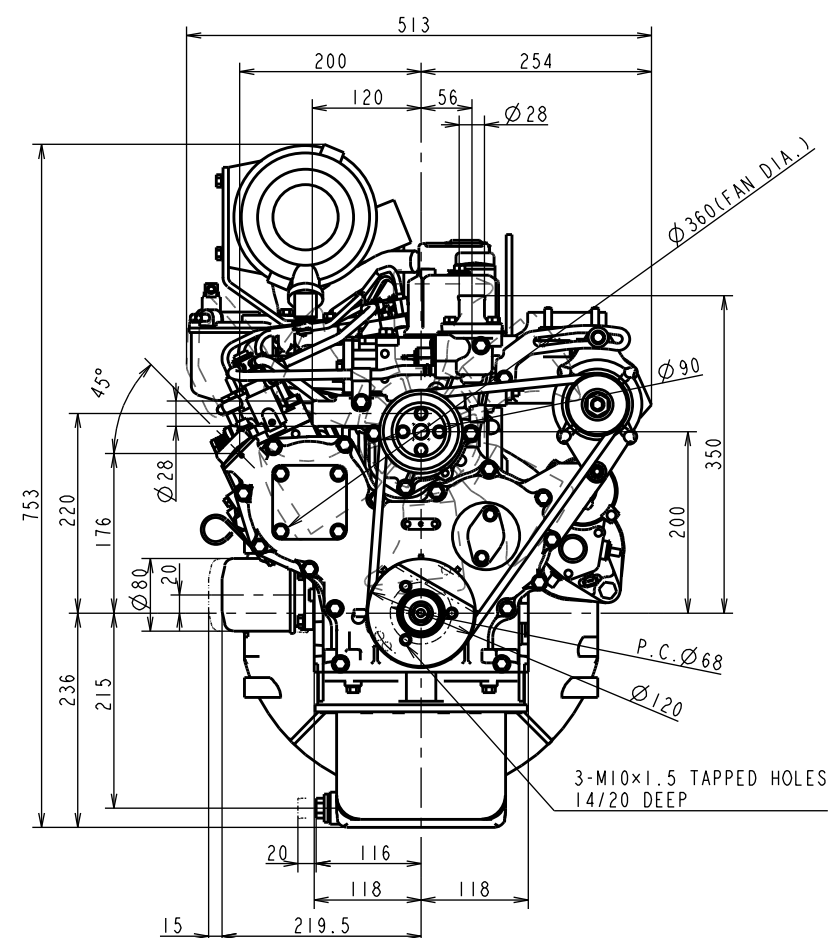
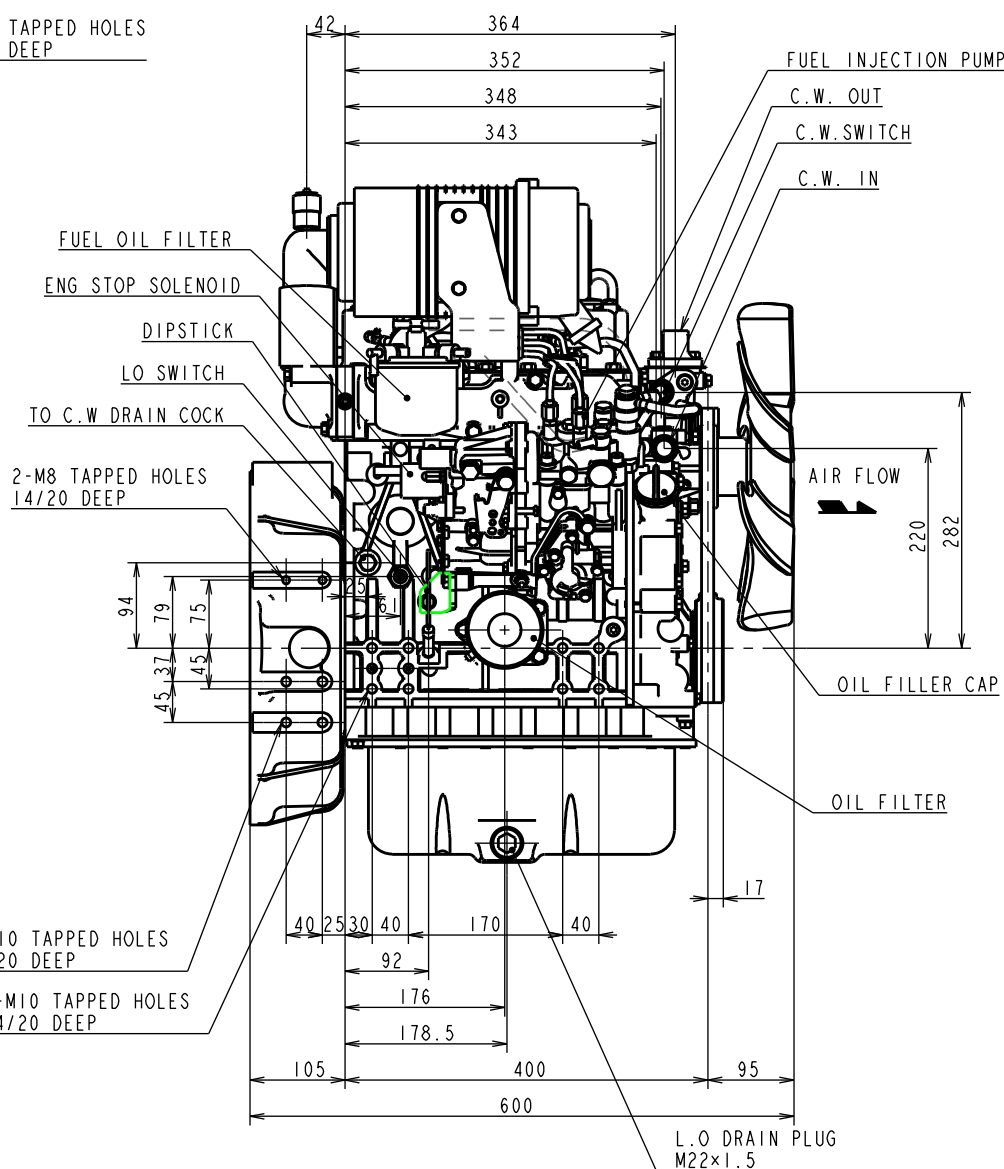
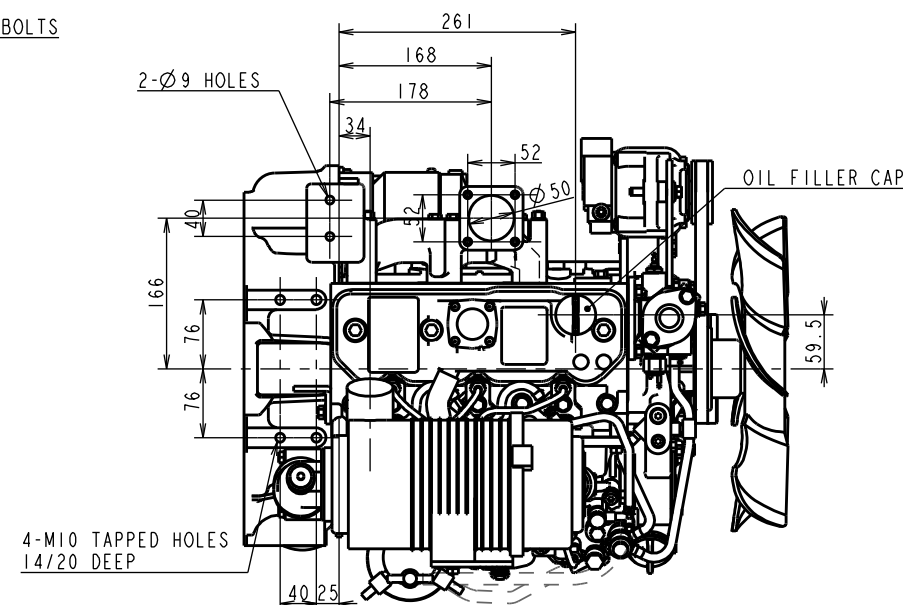
3TNV88-GGEA

## SCOPE OF SUPPLY

G3-29647-0130

No	ENGEN MODEL	3TNV88-GGEA	Parts number	Remarks
<b>FUEL SYSTEM</b>				
1	Fuel Injection Pump	installed	729247-51390	
2	Fuel Injection Nozzle	installed	729246-53101	Mark"WCB"
3	Fuel Transfer Pump	provided	119225-52102	As loose parts
4	Fuel Filter	installed	119802-55801	5 $\mu$ , 2000cm <sup>2</sup>
5	Fuel Filter Bracket	installed	129004-55612	
6	Fuel Injection Line	installed	129004-59801	
7	Fuel Line(Filter to Pump)	installed	129210-59230	L=205
8	Fuel Pipe (Pump to Filter)	installed	129210-59100	L=300
9	Water Separator	provided	119802-55700	As loose parts
10	Throttle Lever	installed	129246-61441	
<b>LUB,OIL SYSTEM</b>				
11	Oil Pan	installed	129100-01730	DEEP
12	Oil filler Extension pipe	installed	124160-01751	
13	Breather Pipe	installed	129004-03080	
14	Switch ,lub .oil pressure	installed	114250-39450	0.5kg/cm2 (CA104)
15	LO pressure sender	provided	119773-91501	As loose parts
16	Dipstick	installed	129004-34802	
17	Guide ,dipstick	installed	121520-34810	
18	Oil filter	installed	129150-35160	
19	Oil Cooler	not provided	none	
<b>COOLING SYSTEM</b>				
20	Radiator	provided	129044-44500	As loose parts
21	Rubber Isolaters	provided	119255-44660	As loose parts
22	Pipe A,radiator	provided	129602-49010	As loose parts
23	Pipe B,radiator	provided	129612-49040	As loose parts
24	Sub tank(radiator)	provided	124450-44510	As loose parts
25	Water Pump	installed	129004-42001	
26	Cooling Fan	installed	129030-44740	Mark"UG" $\phi$ 360push
27	Spacer ,fan	installed	121267-44760	t=18mm
28	Guide ,fan	provided	129601-44560	As loose parts
29	Pully ,fan	installed	129155-42350	D=90mm
30	V-Belt	installed	119831-42290	A37.5inch
31	Switch, water temp.	installed	121250-44901	110°C
32	Sender, water temp.	installed	124250-49351	
33	Thermostat	installed	129155-49801	71deg
34	Thermostat Cover	installed	129350-49530	
35	Water Drain Fitting	installed	171056-49120	PLUG
36	3-Way Plug ,cooling water	not provided	none	
<b>ELECTRIC SYSTEM</b>				
37	Starter	installed	129129-77010	12V-1.2kW(DENSO)
38	Alternator	installed	129423-77200	12V-40A(DENSO)
39	Relay ,solenoid	provided	119650-77910	As loose parts
40	Timer ,solenoid	provided	129211-77920	As loose parts
41	Engine Shut Off	installed	119653-77950	
42	Starting Aid	installed	129100-77501	12V-400W
43	Diode ,solenoid relay	provided	119643-66900	As loose parts
44	Timer, air heater (glow)	not provided	none	
45	Relay, air heater (glow)	not provided	none	
46	Current Limiter	not provided	none	
47	Safety relay, starter	not provided	none	

PTO SYSTEM				
48	Flywheel Housing or Back plate	installed	171420-01600	SAE #4
49	Flywheel	installed	171340-21590	SAE #4
50	Bearing ,retainer	not provided	none	
51	Pully ,crankshaft	installed	129005-21650	D=120mm
52	Gear case	installed	719802-01500	
53	Hydraulic Pump	not provided	none	
54	Device ,hydraulic pump	not provided	none	
INTAKE/EXHAUST SYSTEM				
55	Air Cleaner	installed	119910-12601	
56	Bracket ,air cleaner	installed	119802-12560	
57	Manifold ,intake	installed	129004-12100	
58	Joint	installed	171340-77520	
59	Muffler	not provided	none	
60	Gasket ,muffler	provided	129004-13200	As loose parts
61	Manifold ,exhaust	installed	129004-13109	
62	Bend ,exhaust	not provided	none	
63	Turbine	not provided	none	
GAUGE				
64	Drive Unit ,tachometer	not provided	none	
65	Cable ,tachometer	not provided	none	
66	Tachometer	not provided	none	
67	Key Switch	not provided	none	
68	Cover ,terminals	not provided	none	
69	Pilot lamp	not provided	none	
70	Guage ,oil/water temp	not provided	none	
71	Guage ,oil pressure	not provided	none	
OTHERS				
72	Filter Wrench ,lub .oil	not provided	none	
73	Filter Wrench ,fuel .oil	not provided	none	



WEIGHT (RAW)		(± %)	kg												FORMING DEPARTMENT		J. Seto						
WEIGHT (CALC.)		(± %)	kg																				
S. ENGINEER			MANAGER <i>K. Yamaoka</i>			MODEL	3TNV								SCALE			1 : 4					
CHECKED <i>H. Yokoi</i>			SPECIALIST			QTY	1								MATERIAL								
						モミタカ "イクイリス"																	
DESIGNED		DRAWN		DATE: Y.M.D		NAME		OUTLINE															
<i>M. Nakamura</i>		<i>T. Nakagawa</i>		2008.1.15																			
<b>YANMAR</b>								CODE		REV. I								DRAW SIZE		A1			
POWER SYSTEM OPERATIONS DIV., YANMAR CO., LTD.										B3-29247-0170													





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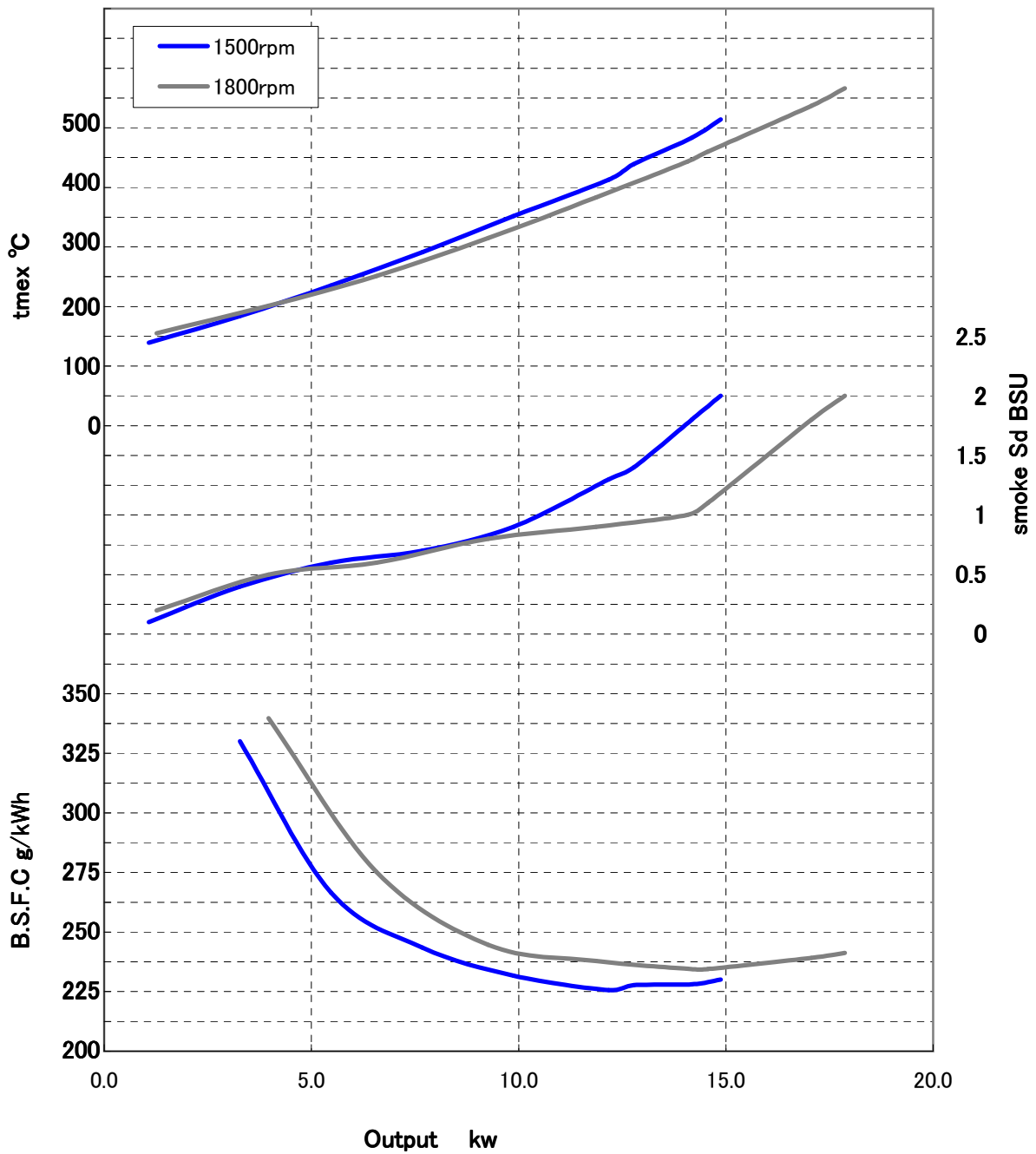
***Fig. 3TNV88 Engine performance curve***

n-BxS : 3-88x90

Displacement : 1.642L

Silencer	129004-13500
Air cleaner	5inch
CW fan	129030-44740

Crank pulley	D=120
Fan puley	D=90
φ360	PushF



The engine operating environment and driven machine conditions must be studied carefully when selecting an engine in order to make the most of the engine performance, extend the service life and improve the machine capacity.

This manual describes the items that must be considered when selecting an engine and determining the specifications to ensure that the engine is not used beyond its capacity.

## APPLICATION STANDARD

No.	Item	Application Standard			Remarks	
1	Engine type	Special swirl combustion chamber system engines (IDI engines)		Engines with cylinder bore of 76 mm or less	TNV series	
		Direct injection system engines (DI engines)		Engines with cylinder bore of 82 mm or more		
2	Output/rpm	Output rpm		See <i>Specifications on page 3-5.</i> Engine Specifications	Same as in JIS and ISO	
		Output Setting conditions	Ambient temperature	25°C (77°F)		
			Atmospheric pressure	100 kPa (750 mmHg)		
			Relative humidity	30%		
		Output power correction		See <i>Power Corrections on page 4-3.</i>		
3	Special operating environment	Precautions against sand dust		See <i>Special Operating Environment on page 1-5.</i>		
		Precautions for outdoor installation				
		Precautions against sea air and snow melting agents				
		Precautions against cold environment				
		Precautions against hot environment				
4	Fuel oil	Fuel oil	Ambient temperature °C (°F)	Equivalent fuel	See <i>Standard Diesel Fuel Line Layout on page 10-7</i> for the fuel specifications in each country.	
		Diesel fuel	≥ -5 (23)	JIS No. 2		
			15 to -20 (59 to -4)	JIS No. 3		
			<-20 (<-4)	JIS special No. 3		
		Kerosene	Not allowed			
		Heavy oil	Not allowed			
		JP-4	Not allowed			
JP-8, JP-5	Contact Yanmar for consideration					
5	Engine oil	See <i>Engine oil on page 11-5.</i>			The initial replacement of the lubricating oil and lubricating oil filter should be done at 50 hours of service.	
		Lubricating oil class	Lubricating oil replacement interval (hr)	Lubricating oil filter replacement interval (hr)		
		CD, CF, CF-4, CI-4 E-3, E-4, E-5, DH-1	Every 250	Every 250		
		Allowable maximum engine oil temperature		≤120°C (248°F)		At the specified maximum ambient temperature.
6	Engine coolant	Allowable cooling water temperature at engine outlet		≤105°C (221°F)	See <i>Cooling System on page 9-1.</i>	
		Water quality		Soft water		See <i>Engine Coolant on page 9-4.</i>
		Antifreeze mixing ratio%		Atmospheric temperature °C (°F)		See <i>Radiator on page 9-8.</i>
		30		0 to -15 (32 to 5)		
		40		-15 to -25 (5 to -13)		
		50		-25 to -40 (-3 to -40)		

## APPLICATION STANDARD

No.	Item	Application Standard				Remarks
7	Power take-off (PTO)	See <i>P.T.O. Systems</i> on page 15-1.				
8	Low-temperature startability	See <i>Low-temperature startability</i> on page 1-7.				
9	Allowable inclination angle	Continuous operation	All directions	IDI	≤25°	See <i>Crankcase Breather System</i> on page 11-18.
				DI	≤30°	
		Instantaneous operation (within 3 minutes)	All directions	IDI	≤30°	
				DI	≤35°	
10	Allowable exhaust back pressure	See <i>Allowable Air Intake Restriction and Exhaust Back Pressures</i> on page 1-30.				
11	Allowable air restriction at intake manifold					

## SPECIAL OPERATING ENVIRONMENT

The engine performance depends greatly on the operating and environmental conditions.

Please consult with Yanmar when unusual operating conditions exist.

### Precautions Against Dusty Conditions

Condition	Part	Countermeasure
Wear due to dusty or sandy condition	Air cleaner	The following measures and cleaning are necessary to prevent dust from entering the engine: Use double element (safety element) Use evacuator valve Use dust indicator
	Alternator	Dust-proof type may be required for preventing entry of sand and dust.
	Starting motor	
	Breather air reservoir (for turbocharged engine only)	Since dust can enter from the breather pipe while the engine is stopped, an air reservoir may be installed at the end of the breather pipe.
	Cooling fan	to improve the wear resistance, a fan made of nylon 6 (reinforced with glass fiber) or steel may be required.
	V pulley	To improve the wear resistance, a hardened pulley may be required.
	V-belt	To counteract belt wear, a larger type V-belt may be required.
	Radiator	Changing the core type and fin material may be required. Heat balance check after the modification is required.

### Precautions for Outdoor Installation

Condition	Part	Countermeasure
Rain, snow, etc.	Rain cap (for both air cleaner and exhaust silencer)	Entry of rainwater, snow, etc. must be prevented.
	Electrical parts	Since electrical parts correspond to level R2(*) in JIS D 0203, either install them where they will not be splashed with water, or provide covers.
Location	-----	Flat, well-ventilated place

(\*) Level R2: A water spraying test level for checking the performance of the portion subject to indirect exposure to rainwater or splashing water.

### Precautions Against Salty Conditions (Air, Sea Water, Road Salt)

Condition	Part	Countermeasure
Location exposed to salt air or road salt	Electrical parts	Since corrosion may occur, careful maintenance is necessary.
	Speed control lever shaft	
	Stop lever shaft	
	Exhaust manifold bolts	
	Stop lever return spring	
	Radiator	
Location where salt water may splash directly onto the engine	-----	Do not install engine where it can be splashed with salt water.

## APPLICATION STANDARD

### Precautions Against Cold Environment

Environmental temperature	Part	Countermeasure	Remarks
-30°C (-22°F) or above	Battery (high CCA)	Specification must be changed.	See <i>Low-temperature startability on page 1-7</i> for startability.
	Starting motor		
-30°C to -40°C (-22°F to -40°F)	Cooling water hose	Special rubber may be required to prevent rubber parts from being damaged by hardening. Choose components that will maintain flexibility at this temperature range.	
	Intake air hose		
	O-rings		
	Oil seal	An electric feed pump is required.	
	Fuel hose		
	Fuel feed pump	A block heater should be used.	
	Starting aid		
-40°C (-40°F) or below		Not recommended.	

### Precautions Against Hot Environment

Environmental temperature	Part	Countermeasure
Below 40°C (104°F)	Electrical parts	The temperature inside the engine hood must be kept below 80°C (176°F) to protect the electrical parts. Provide ventilation around electrical parts.
Above 40°C (104°F)	Radiator	A large capacity radiator and fan must be used to prevent the cooling water and lubricating oil temperatures from getting too hot.
	Cooling fan	
	Oil cooler	Increase capacity or install as standard equipment.
	Electrical parts	The temperature inside the engine hood must be kept below 80°C (176°F) to protect the electrical parts. Provide ventilation around electrical parts.

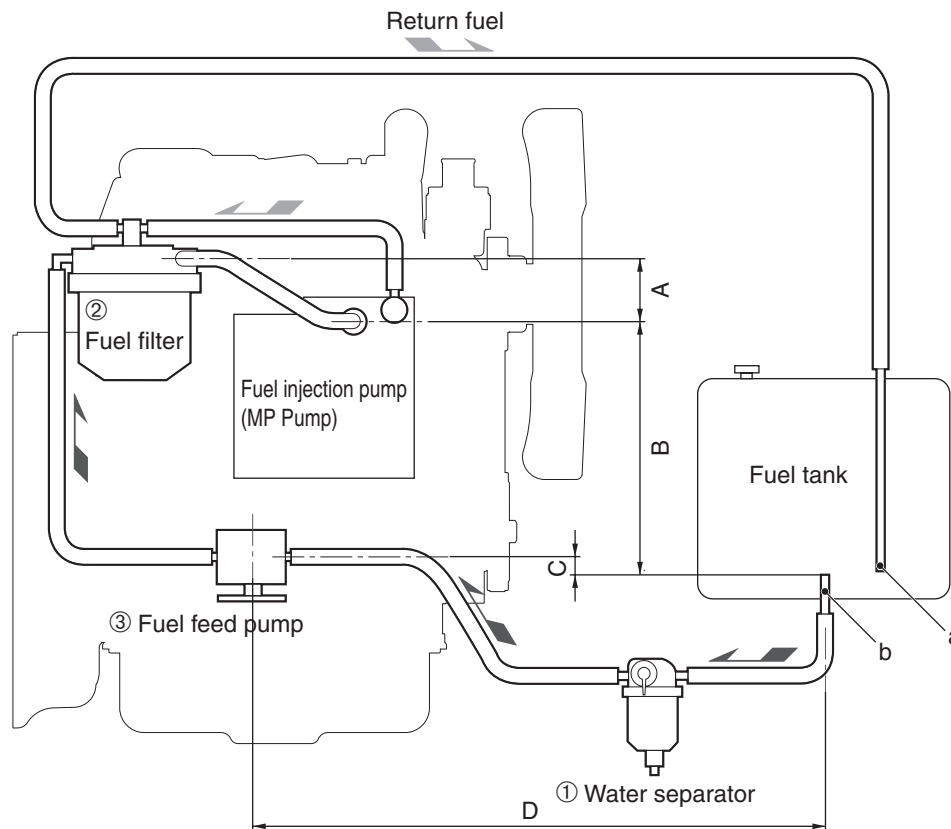
### Others

Condition	Part	Countermeasure
Location where explosive, flammable or toxic gas exists	-----	Engine is not designed for installation where explosive, flammable or toxic gas exists.

# DIESEL FUEL SYSTEM

## Layout for DI Engines with MP2 or MP4 Type Fuel Injection Pump

### Fuel Line Layout for DI Engines.



**Figure 10-5**

Note: Keep return line (a) away from diesel fuel outlet (b) to prevent the diesel fuel line from drawing in air and / or hot diesel fuel. NEVER connect return line (a) to the inlet line.

### Diesel Fuel System Part Names and Functions for DI Engines

No.	Part name	Function
(1)	Diesel Fuel Filter / Water separator	Same as IDI engine.
(2)	Diesel fuel filter	Has 5 $\mu\text{m}$ mesh paper element inside. Capacity to resist pressure is 7 kg/cm <sup>2</sup> . There is a valve on the inlet of the fuel filter for air bleeding.
(3)	Diesel fuel pump	Sends fuel to the fuel injection pump from fuel tank.
	Electric	Mounted off the engine. Consult Yanmar before using a non-Yanmar fuel pump. An additional check valve is not necessary on the Yanmar electric fuel pump since it has one built in. Note: On a bench test, diesel fuel injection pump performance was not influenced by a minimum voltage of 10 V.

Note: Mechanical feed pump is not available for DI engines.

## Fuel Line Layout (DI engines)

Position	Standard value	Content
A	50 ~ 150 mm	From fuel filter outlet to fuel injection pump inlet. For air bleeding, fuel filter outlet position should be higher than the fuel injection pump inlet position.
B	≤ 1000 mm	Total head of diesel fuel pump (from diesel fuel tank outlet to injection pump inlet)
C	≤ 400 mm	Suction head in dry conditions (from diesel fuel tank outlet to diesel fuel pump inlet)
D	≤ 2000 mm	Suppression of the suction side resistance at of the fuel feed pump (from diesel fuel tank outlet to diesel feed pump inlet)

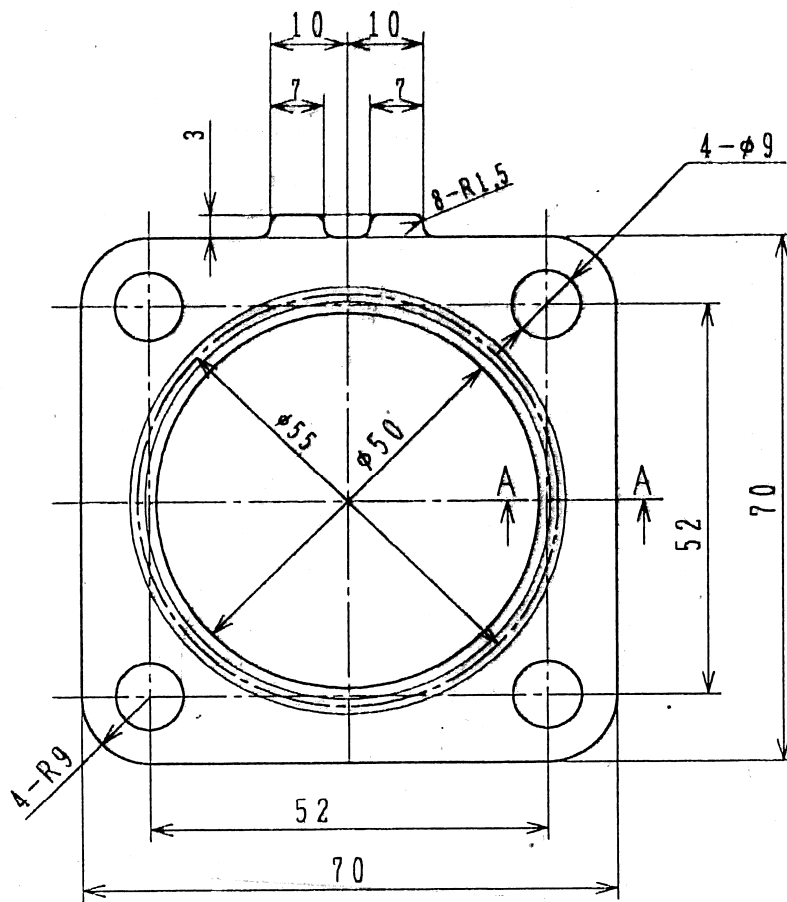
## Parts Specification for Engine

Engine model	3TNV82A ~ 4TNV98	
Diesel fuel pump	Electric type:	119225-52102 (standard), 129612-52100 (with water proof coupler)
Diesel fuel filter / water separator	Standard : Filter mesh: Water reservoir:	129242-55700 (fuel inlet & outlet horizontal) 100 mesh (with valve) 150 cc
Diesel fuel filter	Bracket: Filter: Filter mesh: Filtration size:	129004-55612 (with automatic air bleeding hole φ0.7) 119802-55800 5 μm 2000 cm <sup>2</sup>
Engine model	4TNV98T	
Diesel fuel pump	Same as 3TNV82A ~ 4TNV98	
Diesel fuel filter / water separator	Same as 3TNV82A ~ 4TNV98	
Fuel filter	Bracket: Filter: Filter mesh: Filtration size:	123907-55610 123907-55800 5 μm 5000 cm <sup>2</sup>

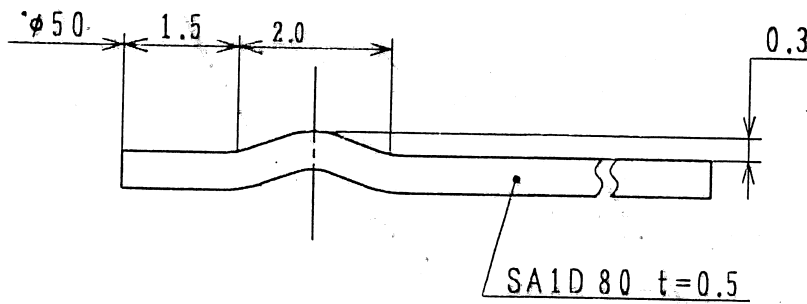
## For poor quality fuel

3TNV82A to 4TNV98	Filter Filter mesh Filtration size	129004-55800 1 μm 1650 cm <sup>2</sup>	129907-55800 1 μm 4000 cm <sup>2</sup>
4TNV98T	Filter Filter mesh Filtration size	129907-55800 1 μm 4000 cm <sup>2</sup>	





A-A 10:1



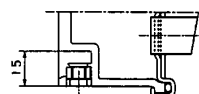
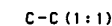
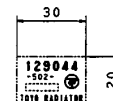
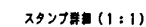
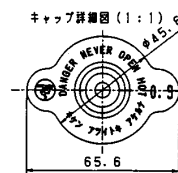
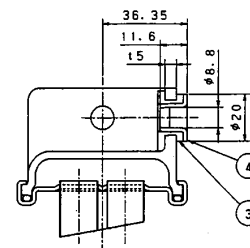
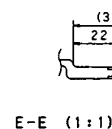
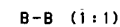
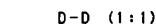
YANMAR DIESEL

PARTS NAME	GASKET, SILENCER
PARTS CODE	129004-13200

FOR 3TNV84/88

**YANMAR DIESEL ENGINE CO., LTD.**





		ラジエータ		RADIATOR	
項目	記号	単位	値	項目	単位
基本性能	重量	kg	8	重量	kg
	全高	mm	110	全高	mm
	全幅	mm	40	全幅	mm
	全幅(1/4部)	mm	50	全幅(1/4部)	mm
	全幅(1/2部)	mm	35.7	全幅(1/2部)	mm
	全幅(3/4部)	mm	245	全幅(3/4部)	mm
	全幅(1部)	mm	88±14.7	全幅(1部)	mm
	全幅(2部)	mm	4.9	全幅(2部)	mm
	全幅(3部)	mm	177	全幅(3部)	mm
	全幅(4部)	mm	58.8	全幅(4部)	mm
性能	全幅(5部)	mm	27	全幅(5部)	mm
	全幅(6部)	mm	22.3	全幅(6部)	mm
	全幅(7部)	mm	10 <sup>1</sup>	全幅(7部)	mm
	全幅(8部)	mm	CF23-2	全幅(8部)	mm
	全幅(9部)	mm	449	全幅(9部)	mm
	全幅(10部)	mm	425	全幅(10部)	mm
	全幅(11部)	mm	36	全幅(11部)	mm
	全幅(12部)	mm	4.0/2	全幅(12部)	mm
	全幅(13部)	mm	6.07	全幅(13部)	mm
	全幅(14部)	mm	1.30	全幅(14部)	mm
性能	全幅(15部)	mm	7.37	全幅(15部)	mm
	全幅(16部)	mm	0.191	全幅(16部)	mm
	全幅(17部)	mm	18.4	全幅(17部)	mm
	全幅(18部)	mm	2.2	全幅(18部)	mm
	全幅(19部)	mm	(4.5)	全幅(19部)	mm
	全幅(20部)	mm		全幅(20部)	mm
	全幅(21部)	mm		全幅(21部)	mm
	全幅(22部)	mm		全幅(22部)	mm
	全幅(23部)	mm		全幅(23部)	mm
	全幅(24部)	mm		全幅(24部)	mm

生記

1. 本品は、129601-44500 (2411-498-0001) に対し、  
シュラウドの内容が異なる。

6	129508-44550	2361-037-4850	コア ASSY	ASSY	1	
7	19601-44610	2311-361-4530	パンチ	UNF	2	0WX10
8	129507-44600	2411-502-3530	シヤフ ASSY	ASSY	1	
9	126014-08012	2221-274-3900	ボルト ASSY	SPCE	4	0X10 0X20
4	11400-44570	2411-458-4520	コア	SPCE	2	11.8
3	118400-44720	2411-458-4910	クランシ	EPDM	2	
2	129107-44590	8713-092-0901	ブラケット	ASSY	1	
1		2411-458-1000	コア C COMP	ASSY	1	

## ラジエター

**YANMAR**

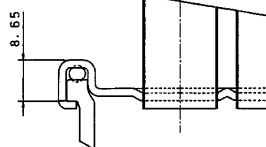
ENGINE PRODUCT OPERATIONS DIV., YANMAR CO., LTD.

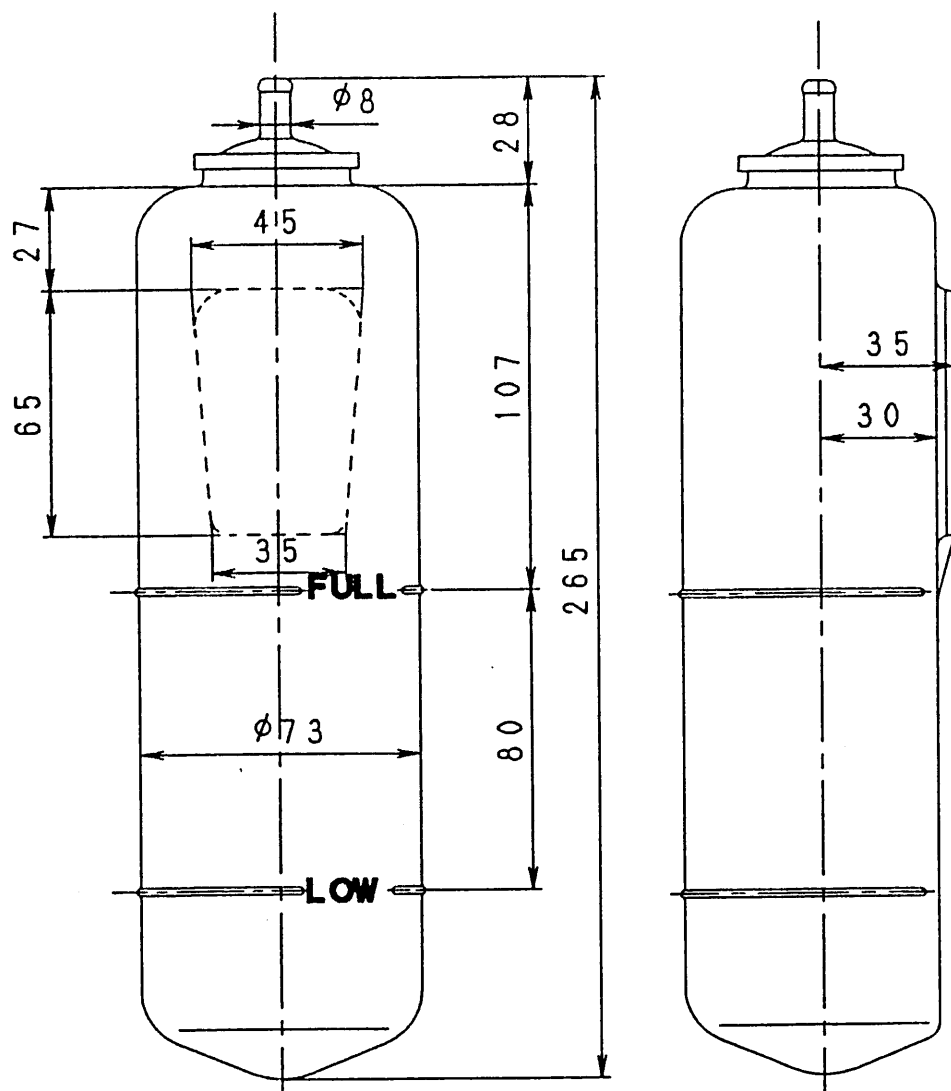
CODE

129044-44500

ENG. MODEL

?? ? ? ? ?





タンク容量：全量 約847cc、 上限 約450cc、 下限 約150cc

TANK CAPACITY: Approx. 847cc (Total), Approx. 450cc (at FULL), Approx. 150cc (at LOW)

サブタンク

SUB TANK

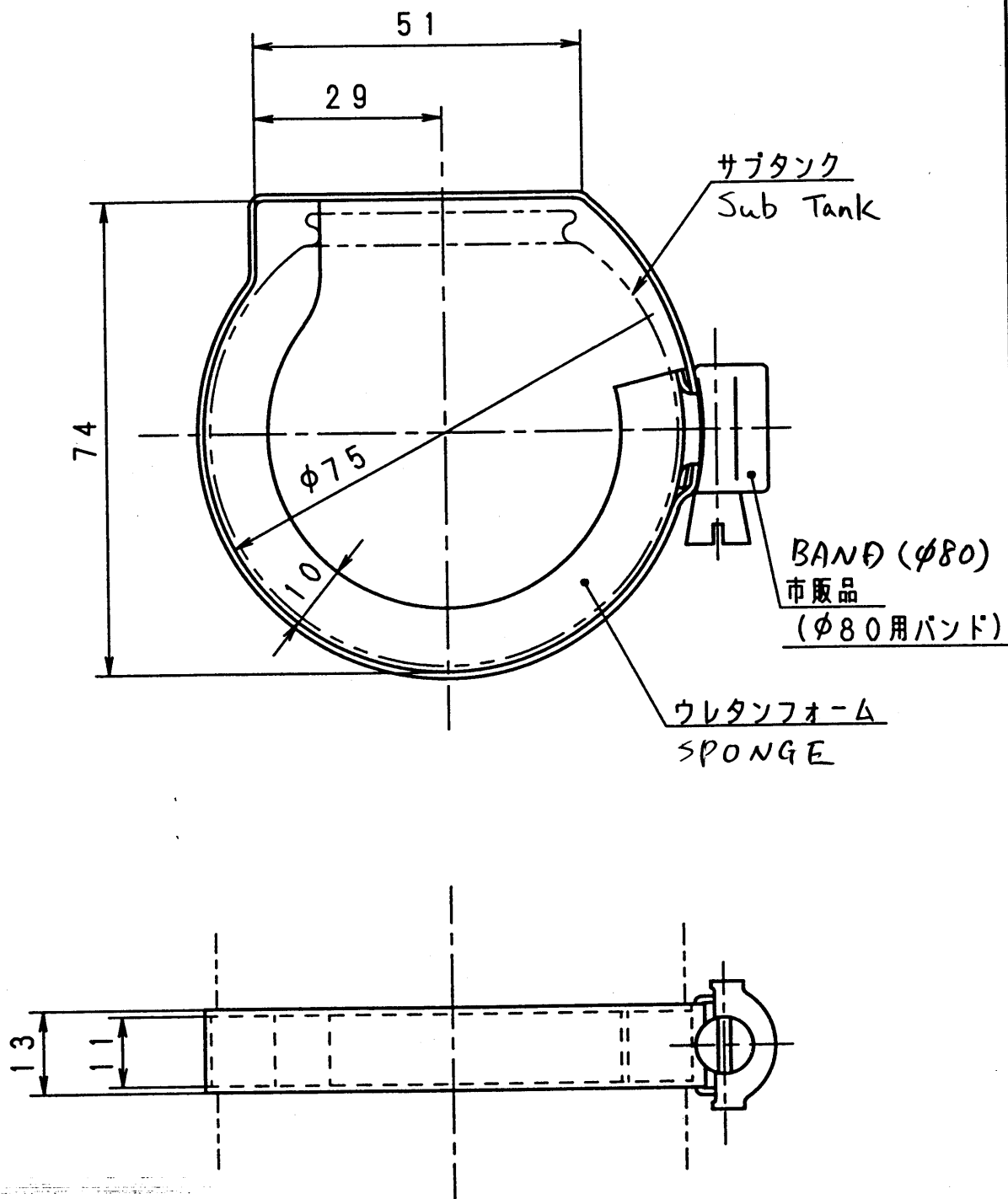
ヤンマーディーゼル株式会社

YANMAR DIESEL ENGINE CO., LTD.

DWG. NO.

部品コード

124450-44510



バンド (サブタンク  
CLAMP

ヤンマーディーゼル株式会社  
YANMAR DIESEL ENGINE CO., LTD.

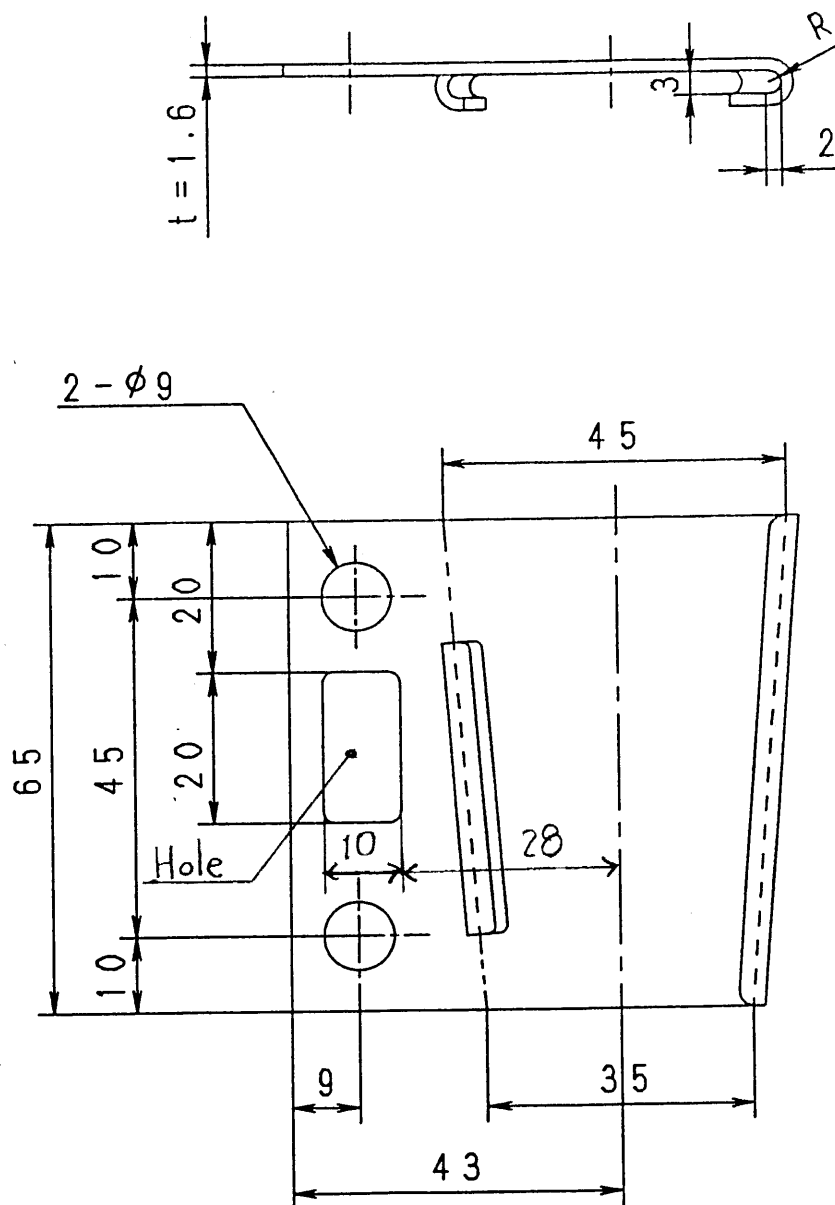
DWG. NO.

部品コード

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124450-44550





ブラケット (サブタンク)  
BRACKET FOR SUB TANK

ヤンマーディーゼル株式会社  
YANMAR DIESEL ENGINE CO., LTD.

DWG. NO.

部品コード

121256-44600

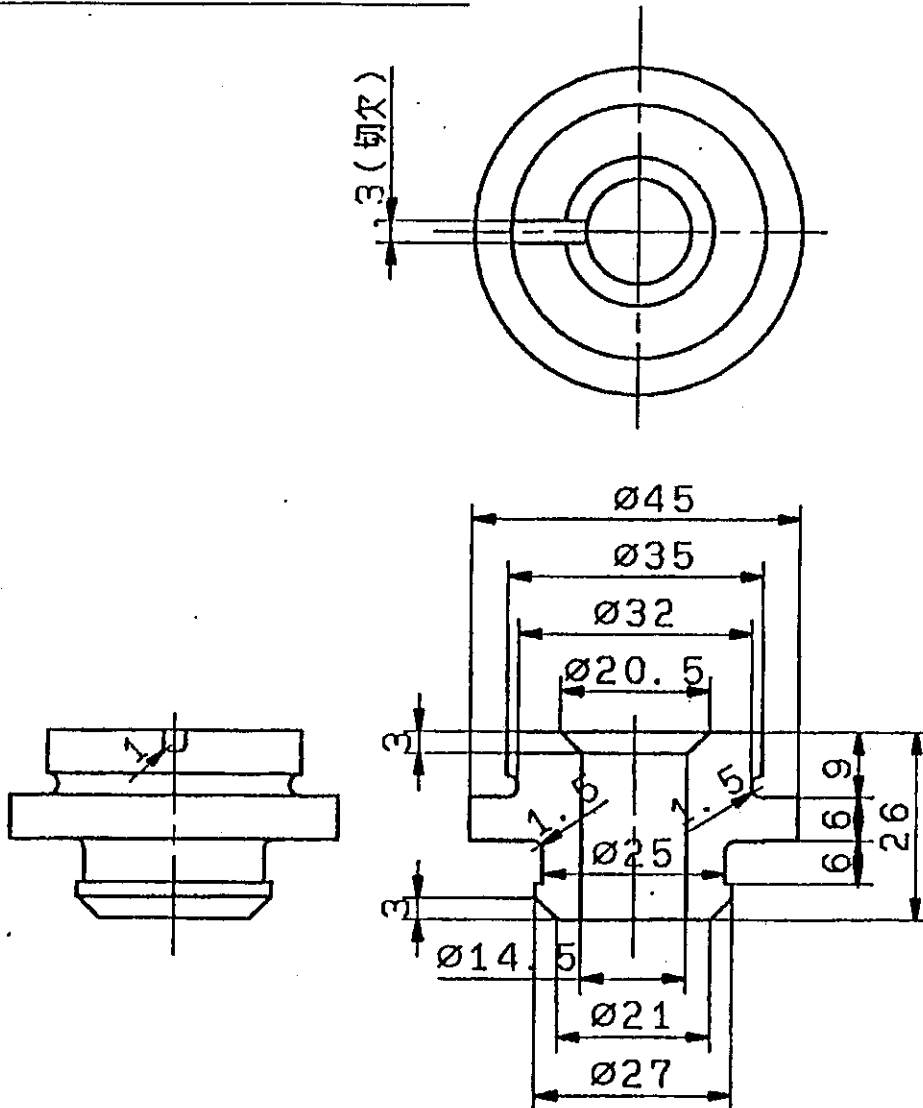
備考

1. 材質: CR, J4 硬度  $70^{\circ} \pm 5^{\circ}$

Note

material: CR

rubber hardness:  $70^{\circ} \pm 5^{\circ}$

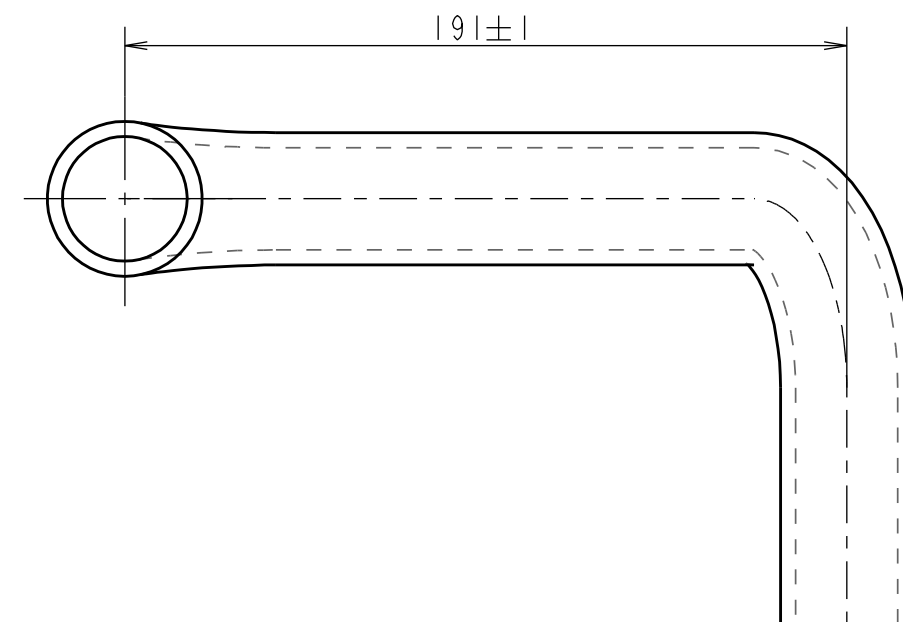


Dumper

ヤンマーディーゼル株式会社	
適用名称	
適用機種	
部品名称	円板ゴムクッション
部品コード	119255-44660

Silent blocks



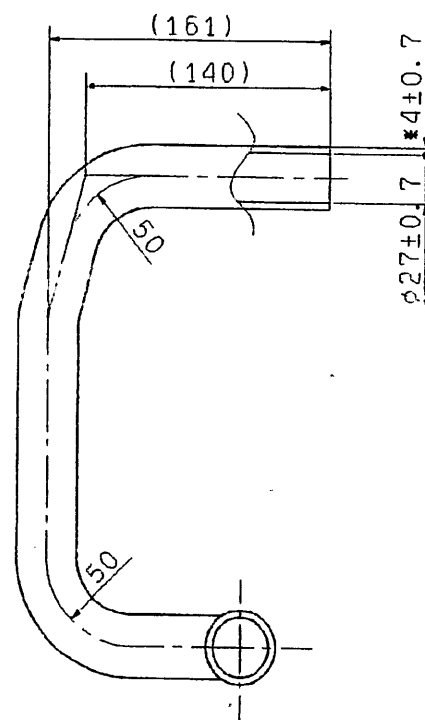
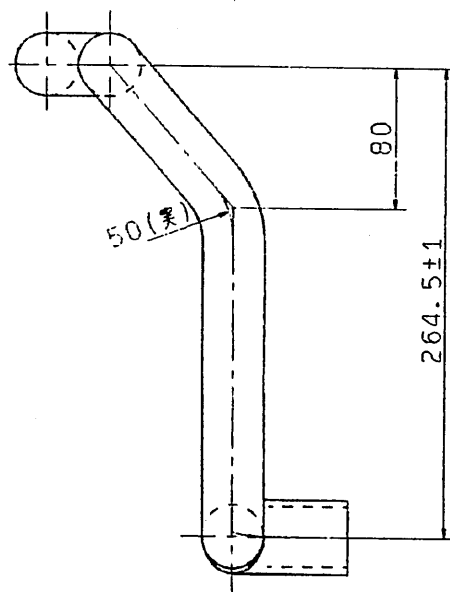
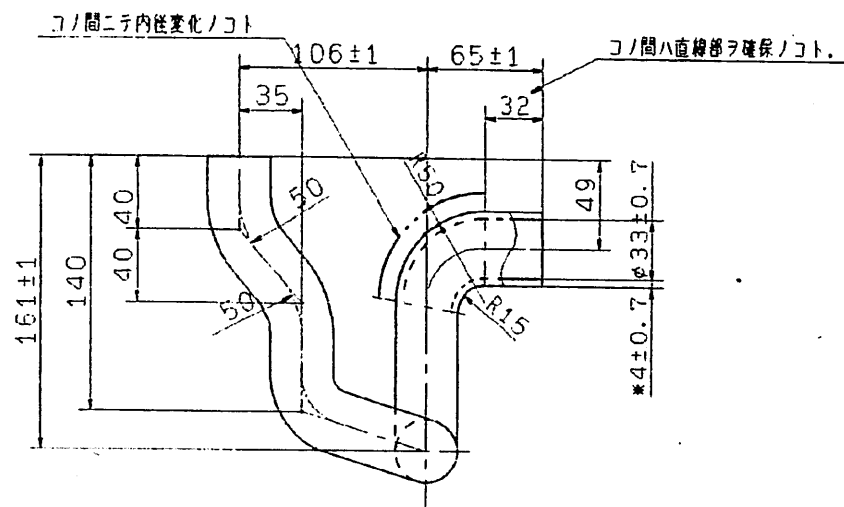


**YANMAR**

129602-49010

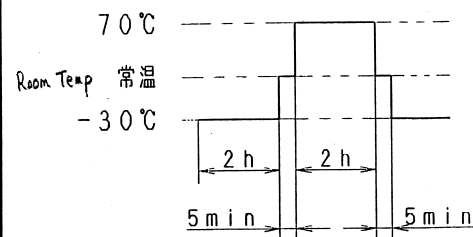
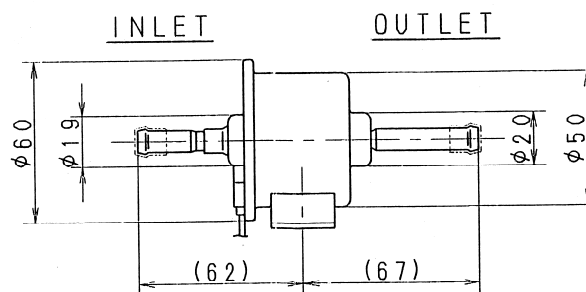
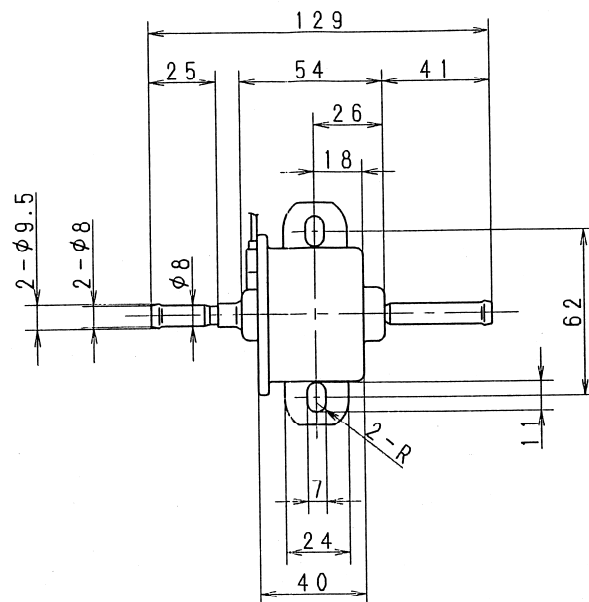
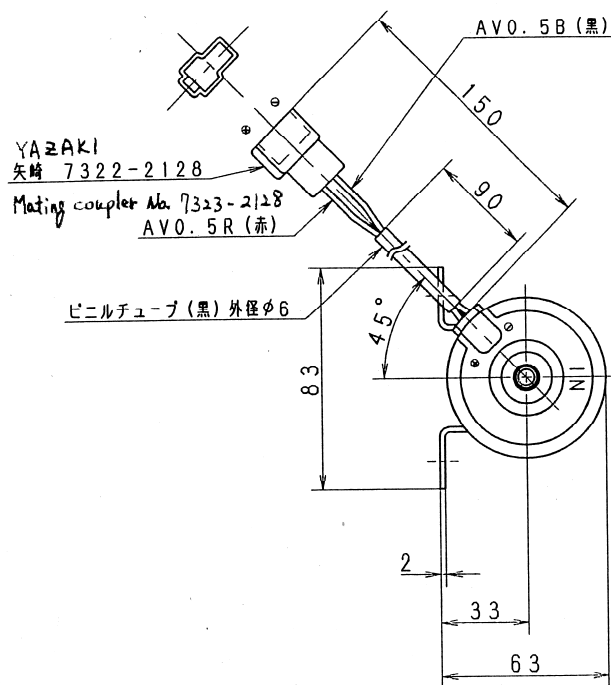
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ENGINE PRODUCT OPERATIONS DIV., YANMAR CO., LTD.



ヤンマーディーゼル株式会社	
適用名称	
適用機種	
部品名称	CW-T(B
部品コード	129612-49040

**YANMAR DIESEL ENGINE CO., LTD.**



☒ 1

#### NOTES FOR OPERATING FUEL PUMP

1. USE A 100 MESH FILTER (PAPER TYPE) BETWEEN PUMP AND FUEL TANK
2. FIX A PUMP INLET & OUTLET PIPES HORIZONTALLY OR VERTICALLY (OUTLET IS UP SIDE)
3. PUT A CLIP AT HOSE INSERTING PLACE
4. DON'T OPERATE WITHOUT FUEL

#### SPECIFICATIONS

( ROOM TEMPERATURE CHARACTERISTIC.

MEASUREMENT METHOD AND EQUIPMENT

ARE BASED ON JIS D3606)

1. RATED VOLTAGE: 12V DC
2. OPERATING VOLTAGE RANGE: 8.5-16.5V
3. OPERATING CURRENT: MAX 1.5A
4. DELIVERY: MIN 400cc/min AT FREE FLOW (0.1kgf/cm<sup>2</sup> TOTAL PRESSURE)
5. TOTAL PRESSURE (DELIVERY + SUCTION): MAX 0.38kgf/cm<sup>2</sup> AT ZERO DELIVERY
6. SUCTION PRESSURE AT DRY CONDITION: MAX -30mmHg
7. AIR TIGHTNESS: SHOULD HAVE NO LEAKAGE UNDER A PRESSURE OF 1kgf/cm<sup>2</sup> APPLIED TO INLET AND OUTLET FOR 15 SECONDS
8. OPERATING TEMP. RANGE: -30-70°C
9. TEST FUEL: JIS K2203 OR K2201
10. FIXING DIRECTION FOR TEST: INLET & OUTLET PIPES HORIZONTALLY
11. WEIGHT: 600g
12. SURFACE TREATMENT: SEE BELOW
13. FUEL TIGHTNESS OF CHECK VALVE: THE AMOUNT OF LEAK TO OUT SIDE SHALL BE MAX 5cc/min WHEN PRESSURIZED 0.06kgf/cm<sup>2</sup> FROM IN PORT WITH GASOLINE

AFTER EACH TEST (NO.14-24) AS FOLLOWS, PUMP MUST OPERATE NOMALLY

14. VIBRATION: JIS D1601 5.3(1) STEP4
15. WATER PROOF: JIS D0203 D1 SHOULD BE NO WATER INSIDE OF PUMP
16. THERMAL SHOCK:
  - a) PATTERN: SEE FIG 1
  - b) CYCLES: 4
17. THERMAL RESISTANCE:
  - PATTERN: 70°C 240Hrs AND -20°C 240Hrs
18. HIGH TEMP. PERFORMANCE:
  - a) VOLTAGE: 14V DC
  - b) FUEL TEMP.: 50°C
  - c) ENVIRONMENT TEMP.: 70°C
  - d) OPERATING TIME: 96Hrs
19. FALLING TOUGHNESS:
  - FALL FROM 300mm HEIGHT TO THE CONCRETE
20. SURGE VOLTAGE: JASO D001-22 A-1,2 B-1,2 ALL
21. REVERSAL VOLTAGE APPLYING:
  - JASO D001-22, 13V FOR 1min
22. DURABILITY TEST: AFTER TEST AS FOLLOWS, DROP OF DELIVERY SHOULD BE LESS THAN 10%
  - a) VOLTAGE: 14V
  - b) THERMAL ENVIRONMENT: ROOM TEMPERATURE
  - c) OPERATING TIME: 1000Hrs

#### 23. DRY PUMPING DURABILITY:

- a) VOLTAGE: 14V DC
- b) PATTERN: 5min ON-OFF
- c) CYCLES: 10

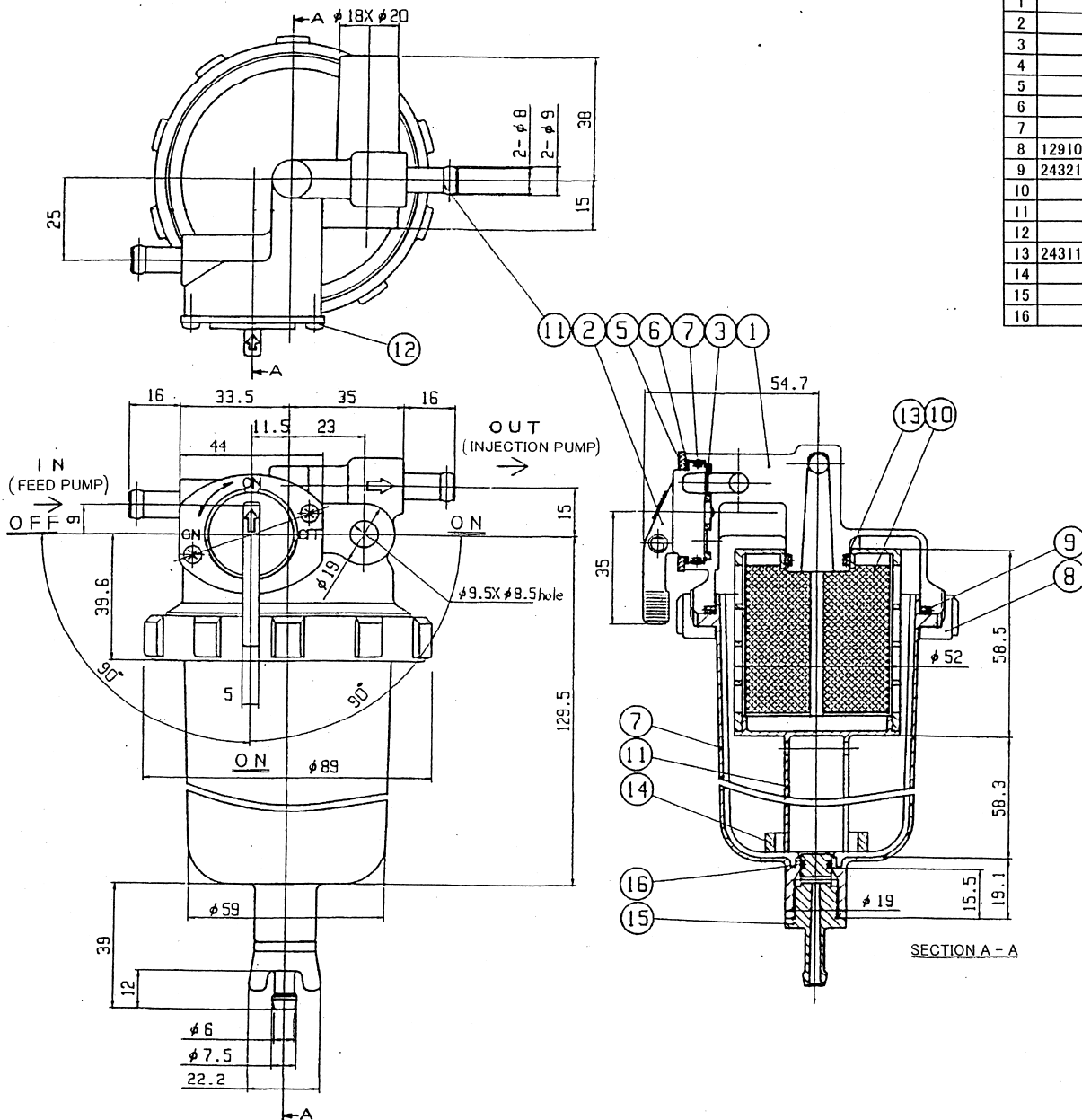
#### 24. WATER PROOF DURABILITY TEST

- a) OPERATING IN THE AIR: 1Hr
- b) STOPPING IN THE WATER: 1Hr
- c) CYCLES: 350

YANMAR DIESEL

PARTS NAME	FUEL FEED PUMP
PARTS CODE	119225-52102

**YANMAR DIESEL ENGINE CO., LTD.**



NO.	YANMAR CODE	SUPPLIER CODE	MODEL NAME	MATERIAL	QUANTITY	NOTES
1		YD-259-1	BODY	ADC12	1	
2		DI-2a	LEVER	ZDC2	1	WHITE CHROMATE
3		OK-3a	VALVE PACKING	NBR	1	
4		KTO-2-4	WAVE WASHER	SKS	1	
5		DI-5a	PLATE	SPCC	1	MFZn2
6		YMO-1-26	O RING	NBR	1	S-29
7		YD-259-7	CUP	12 NYLON	1	SEMI-TRANSPARENT
8	129100-55690	IA-8	RING NUT	ZDC2	1	WHITE CHROMATE
9	24321-000650	IA-9	O RING	NBR	1	G65
10		YD-259-10	ELEMENT	66 NYLON	1	108 MESH
11		S12-08	JOINT	C2700T	2	
12		ZSR-30-13	SCREW	S25C	2	MFZn2-C
13	24311-000160	YM-5-6	O RING	NBR	1	P16
14		JB-14-12	FLOAT	P.P	1	RED
15		JB-13-18	DRAIN PLUG	PCM	1	
16		KG-6	O RING	NBR	1	P7

SPECIFICATION		
ITEM	CONDITION	STANDARD
AIRTIGHTNESS	AIR PRESSURE(100kPa)(1.0kg/cm <sup>2</sup> )	NO LEAKAGE
FLOW RATE		
LEVER OPERATION TORQUE	AFTER OPERATING A FEW TIMES	LESS THAN 0.7N·m (7kg·cm)
ADAPTIVE FUEL		LIGHT OIL, YANMAR HEAVY OIL
ADAPTIVE TEMPERATURE RANGE		-20°C ~ 80°C
LEVER OPERATION DURABILITY	OPERATION SPEED 15±5 REPROICATION/min	1X103 REPROICATION

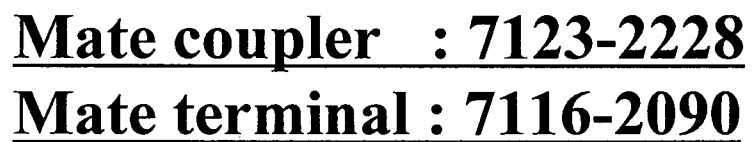
#### NOTE

1. ⑥ ASSEMBLE AND APPLY DIAMOND GREASE TO RING NUT SCREW.  
TIGHTNING TORQUE: 15<sup>+5</sup> N·m (150+50 kg·cm)
2. ⑪ FORCE FIT AFTER APPLYING ADHESIVE (THREE BOND 1303) TO JOINT.  
DRAFT LOAD: MORE THAN 4 N·m (40kg)
3. ⑩ ELEMENT SPECIFICATIONS  
FILTRAION AREA: MORE THAN 57cm<sup>2</sup>  
OPENING: 152 μ
4. COUNTER VIBRATION: 8G, 50Hz
5. CAPACITY OF WATER-OIL SEPARTOR: MORE THAN 150cc
6. TO BE FREE FROM FOREIGN MATTERS AND BARRIS IN FUEL LINE.
7. INDICATED DETAIL OF DATE OF MANUFACTURE (ex.) 2001.5.14 [N15]

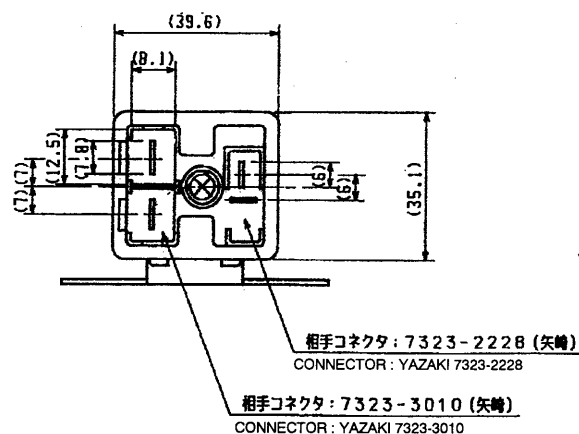
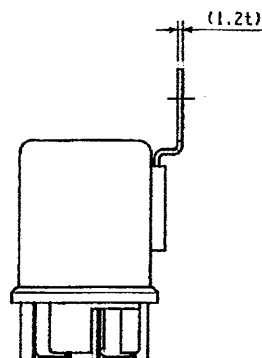
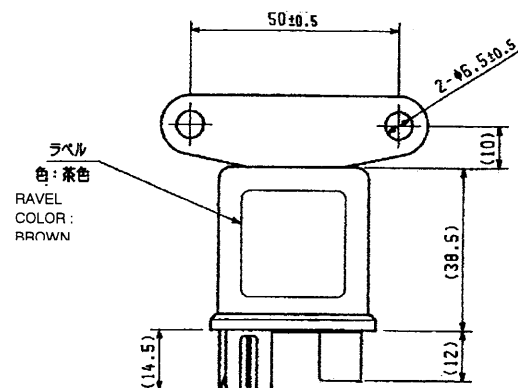
DAY 1-26, 27, 28, 29, 30, 31 YEAR 0-9 MONTH 1-9, 10, 11, 12  
(A-Z) (a) (b) (d) (e) (f) THE END OF NUMBER OF THE YE/ (1~9)(O) (N) (D)

YANMAR DIESEL

PARTS NAME	WATER-OIL SEPARATOR
PARTS CODE	119802-55700



DIODE タ"イオート"		
<b>YANMAR</b> ENGINE PRODUCT OPERATIONS DIV., YANMAR CO., LTD.	CODE	119643-66900



#### 仕様

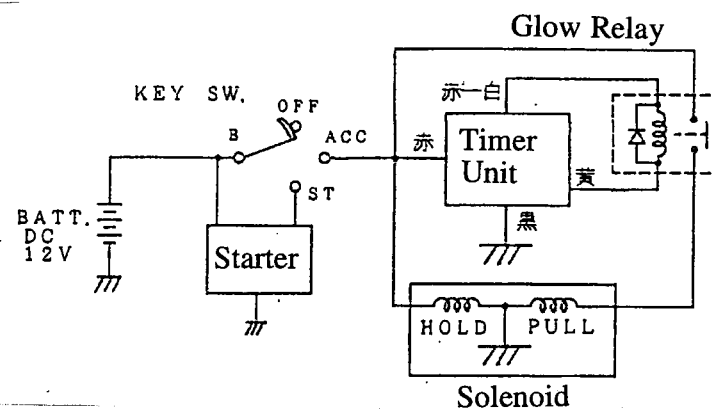
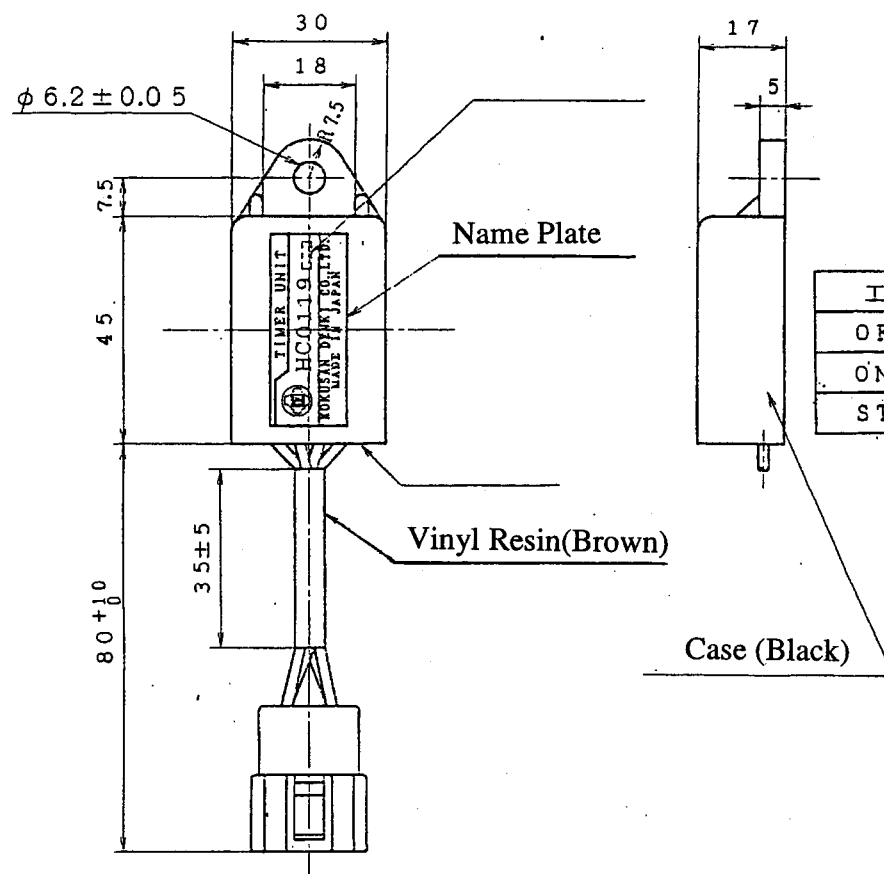
1. 定格電圧 : DC12V
2. 連続定格 : 10 MIN.
3. コイル抵抗値 : 37Ω
4. インダクタンス : 66mH (at 1kHz)

#### SPECIFICATIONS

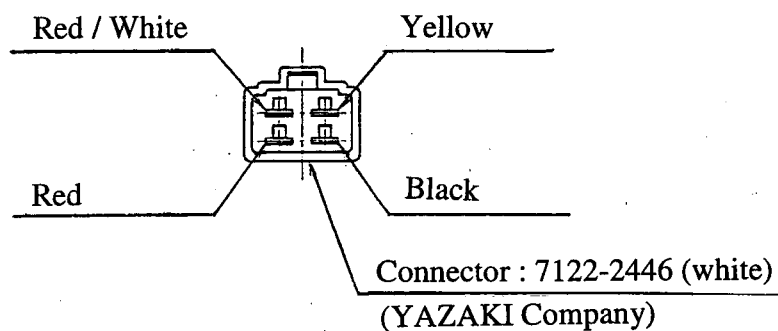
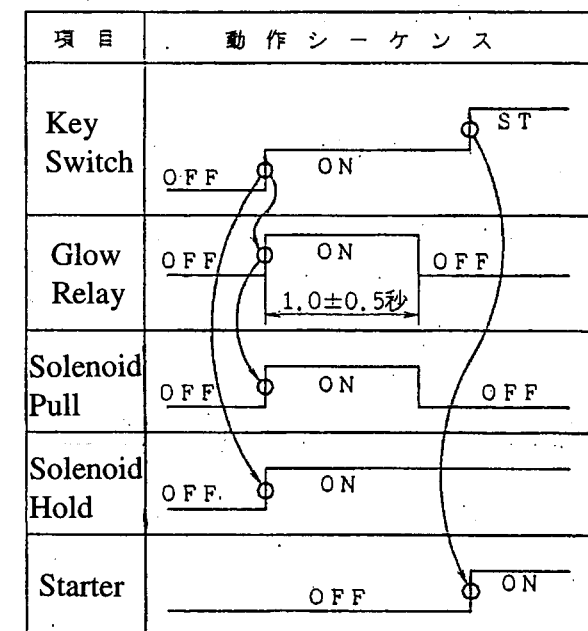
1. RATED VOLTAGE : DC12V
2. MAXMUM OPERATING TIME : 10 MIN.
3. COILE RESISTANCE : 37 ohm
4. INDUCTANCE : 66mH (at 1kHz)

YANMAR DIESEL ENGINE CO., LTD. ENGINE DEVELOPMENT DEPT.	
MODEL	TNE SERIESE
部品名称	グローリレー
NAME	GLOW RELAY
PART No.	119650-77910

3D-CAD



工程	B	ACC	ST
OFF			
ON	○	○	
ST	○	○	○



TIMER (1 sec)

タイマー (1 sec)

**YANMAR**

ENGINE PRODUCT OPERATIONS DIV., YANMAR CO., LTD.

CODE

129211-77920

ENG. MODEL	TNE, TNT series
PART NAME	PRESSURE SENDER (LO
PART CODE	119773-91501