No.	S6K-193

TRANSMITTAL OF MITSUBISHI HIGH SPEED DIESEL ENGINE DOCUMENT

ORDERED BY	CUSTOMER

	PART NAME	PART No.	FOR APPR. N	FOR APPR. D							ENGINE TYPE S6K-D65SAG
1	S6K-D65SAG SPEC.	SPC-S6K-346	P	A	P	B					A: First offer
2	S6K ENGINE ASSY	34300-02510	P	A							B:Addition of China Emission Regulation Label (Export Only Label)
3	S6K-D65SAG ENG ASSY	34300-02511			P	B					
4	ACCESSORIES (WITH ENGINE)		P	A	P	B					
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											E
19											
20											
21											D
22											
23											
24											C
25											
26											
27											B
28											
29											
30											A
31											
32											
33											
34											
35											

E			
D			
C			
B	H. Komatsu	T. Hirose Mar. 14. 2016	ref. spec
A		A. Izaka Jun. 30. 09	ref. spec
DATE	APPROVED	CHECKED BY	CC

ORDER

N:NUMBER, D:DATE
P:PDF

MITSUBISHI HEAVY INDUSTRIES, LTD.

MITSUBISHI HEAVY INDUSTRIES, LTD.

SPECIFICATIONS

Used for 80kVA generator

MITSUBISHI HIGH SPEED DIESEL ENGINE
⚠1 MODEL MITSUBISHI S6K-D65SAG

(For GENERATOR OEM, 1500rpm)

APPLICATION FOR APPROVAL

MITSUBISHI HEAVY INDUSTRIES, LTD.
MAR. 25. 2016
ENGINEERING DEPARTMENT
ENGINE DIVISION

PLEASE RETURN AFTER APPROVAL

APPROVED	REMARKS
DATE・SIGNATURE	

DATE Jun. 30. 2009
MITSUBISHI HEAVY INDUSTRIES, LTD.

CHG	DATE	APPROVED	CHECKED	DRAWN
		K. Inoue	H. Komatsu	T.SHIMIZU
⚠1	Mar. 14. 2016			

P	サ技
P	産E
P	E保
P	小E作
P	MHIES-A
	PDF
1	控
1	計

P:PDF配布

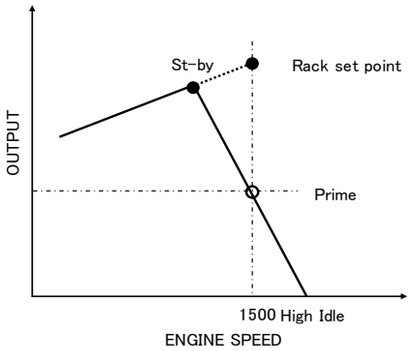
Revised record

No.	Date	Items	New	Old	Remarks
0	Jun. 30. 2009	First offer.			
⚠1	Mar. 14. 2016	Model	S6K-D65SAG	S6K	
		MHI No.	34300-02511 (1/2-CHG0, 2/2-CHG0)	34300-02510	Addition of China emission label(Export only) Removal of oil pressure unit
		Regulations	National Standard of the People's Republic of China GB20891-2014 Export Only engine family; G3MVXLL0637KNZ (engine type; KNZ-S6K-PA1)	No emission regulated type	Change of spec
		Rating conditions(Without fan)	ISO 15550	JIS B 8002	
		Fuel consumption			Update of specific fuel consumption value
		Tolerance	———	±5%	
		Oil consumption	Approx.0.1～0.3% of fuel consumption <Reference value> @Full load, Rated speed	Within 3.0g/kW-h	Change of notation to latest
		Flywheel	11-1/2 inch	SAE #11-1/2	Correction
		Engine attached items&Reference drawings change			
		UNIT,PRESSURE GAGE	———	05202-50100	Stop production of supplier
		UNIT,THERMOMETER	MD366-869	05204-50300	Interchangeable
		STARTER	32B66-12301	32B66-12300	

1. Principal Particulars of Diesel Engine

General Specification

	Standard	All items, unless otherwise specified, are in accordance with JIS and maker's standards
	Model	Mitsubishi S6K
△1		S6K-D65SAG
△1		MHI No. 34300-02511 (1/2-CHG0, 2/2-CHG0)
	Application	Generator
△1	Regulations	National Standard of the People's Republic of China GB20891-2014 Export Only engine family; G3MVXLL0637KNZ (engine type; KNZ-S6K-PA1)
	Type	4 cycle water-cooled, vertical overhead valve, cylinder in line, direct injection type
	Number of cylinders	6
	Bore × Stroke	102mm × 130mm
	Piston displacement	6.373 liters
	Compression ratio	17 : 1
	Rotation	Anti-Clockwise rotation as viewed from flywheel side
	Firing order	1-5-3-6-2-4
	Engine weight(Dry)	Approx. 465kg
	Dimensions(Length)	Approx. 1163mm
	(Width)	Approx. 741mm
	(Height)	Approx. 918mm
	Inclination(Continuous)	Max.15°
	(Temporary)	Max.15°
	Fuel	ASTM diesel fuel oil No.2-D(JIS K2204 gas oil specification No.2 or 3)
	Lubricating oil	API classification service CF,CF-4 or CH-4 class
	Output(Without fan)	Spec.Rating
		Breaking in around 50hr
	Rated speed	1500rpm
		St-by;70.5W
		Prime;64kW
	Rack set point	70.5kW/1500rpm
		(With Fan St-by;69kW)
		(With Fan Prime,63kW)
	Rating tolerance	±5% of nominal
	Low Idle	1000±20rpm
	High Idle	1583(0/-20)rpm
△1	Rating conditions(Without fan)	ISO 15550 Total barometric pressure : 100kPa Air temperature : Relative humidity : 30%
	Fuel consumption	245g/kW-h at Prime output and standard air conditions(Without fan)
△1		
△1	Oil consumption	Approx.0.1～0.3% of fuel consumption<Reference value>@Full load, Rated speed



Fuel injection timing	20°BTDC
Mean effective pressure	0.80MPa{8.2kgf/cm^2} at Prime(Without fan)
Piston speed	6.5m/s at 1500rpm

Fuel system

Fuel injection pump	In-Line type
Fuel injection nozzle	Multi-Hole type
Governor	Mechanical centrifugal type
Fuel filter	Filtering paper type
Fuel pump	Yes(Engine attached)

Lubricating system

Lubricating system	Forced lubrication by gear pump
Lubricating oil filter	Filtering paper type, full flow
Oil pressure	0.2~0.4MPa{2~4kgf/cm^2} at duty run 0.1MPa{1kgf/cm^2} min. at low idling
Oil capacity	Approx. 20.5 liters (Oil pan high level 19 liters,Oil filter etc. Approx. 1.5 liters,High ~ Low Approx. 5.2 liters)
Oil dipstick	Standard dipstick
Oil pressure switch	Yes
Oil pressure unit	Yes
Oil cooler	Plate type

Cooling system

Cooling system	Forced circulation of fresh water by centrifugal pump with thermostat
Engine water capacity	Approx. 9 liters
Cooling fan	580mm diameter, 7 blades, pusher
Water pump pulley	PCD 173mm
Pulley ratio	1.00 (Crankpulley : Water pump pulley = 173:173)
Fan spacer	60mm thickness
Water temp. switch	Yes
Thermo. Unit	Yes
Thermostat	Open at 71deg.C - full open at 85deg.C

Electrical system

Alternator	24V-35A
Voltage regulator	IC type (Built in alternator)
Regulator set voltage	28.5±0.5V
Alternator pulley	PCD 80mm
Starting system	Electric starting
Starter motor	24V-5kW
Air heater	22V,95A
Engine shut off system	Electric solenoid (ETS)

Intake and Exhaust system

Intake manifold(cover)	Rear side way
Exhaust manifold	Upper side way
Induction Resistance	Max 1.96kPa{200mm$H_2$0}(Initial stage)
Exhaust Back Pressure	Max 6.7kPa{683mm$H_2$0}

<Remarks>

	Engine color	Black(MHI standard color)
⚠1	Flywheel	11-1/2 inch
	Flywheel housing	SAE #3

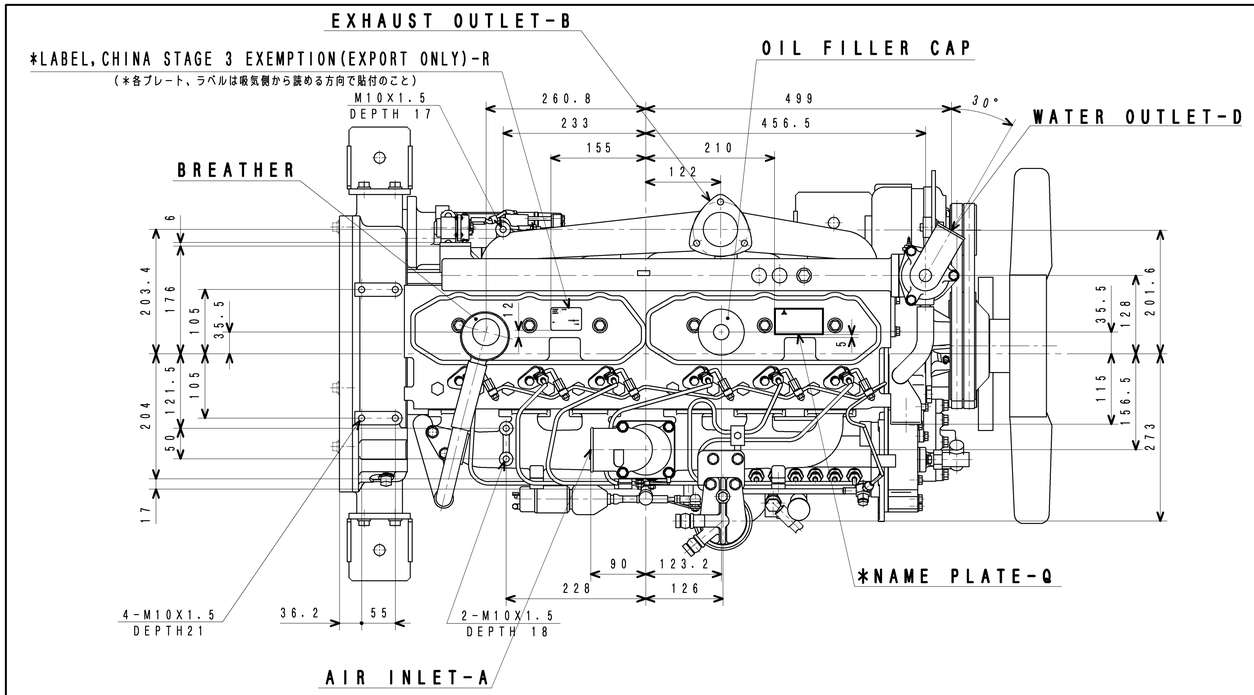
2. Engine attached items&Reference drawings

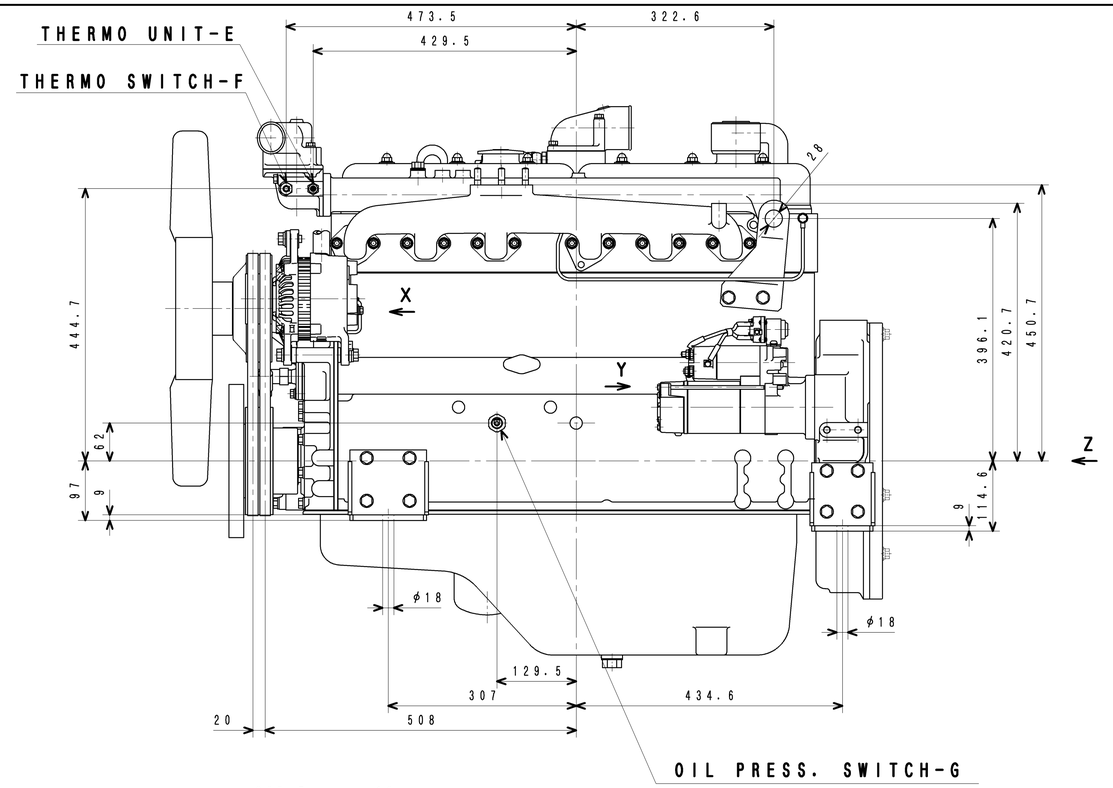
	Parts Name	Drawing No.	Q'ty	Remarks	
	WIRING DIAGRAM	34290-07021	-	Reference(only for)	A4
1	SWITCH,OIL PRESSURE	MC840-219	1		A4
2	SWITCH, THERMO	MC880-900	1		A4
△1 3					
△1 4	UNIT,THERMOMETER	MD366-869	1		A4
5	STOP SOLENOID(ETS)	34287-01300	1	STOP SOLENOID KIT 34387-00030	A4
△1 6	STARTER	32B66-12301	1		A4
7	AIR HEATER	36766-11502	1		A4
8	FILTER ASSY,FUEL	34362-00012	1		A4
9	ALTERNATOR	34368-04100	1		A4
10	OIL FILTER	34340-10022	1		A4
11	COOLING FAN	34348-00201	1		A4
12	L-JOINT	30625-35020	1		A4

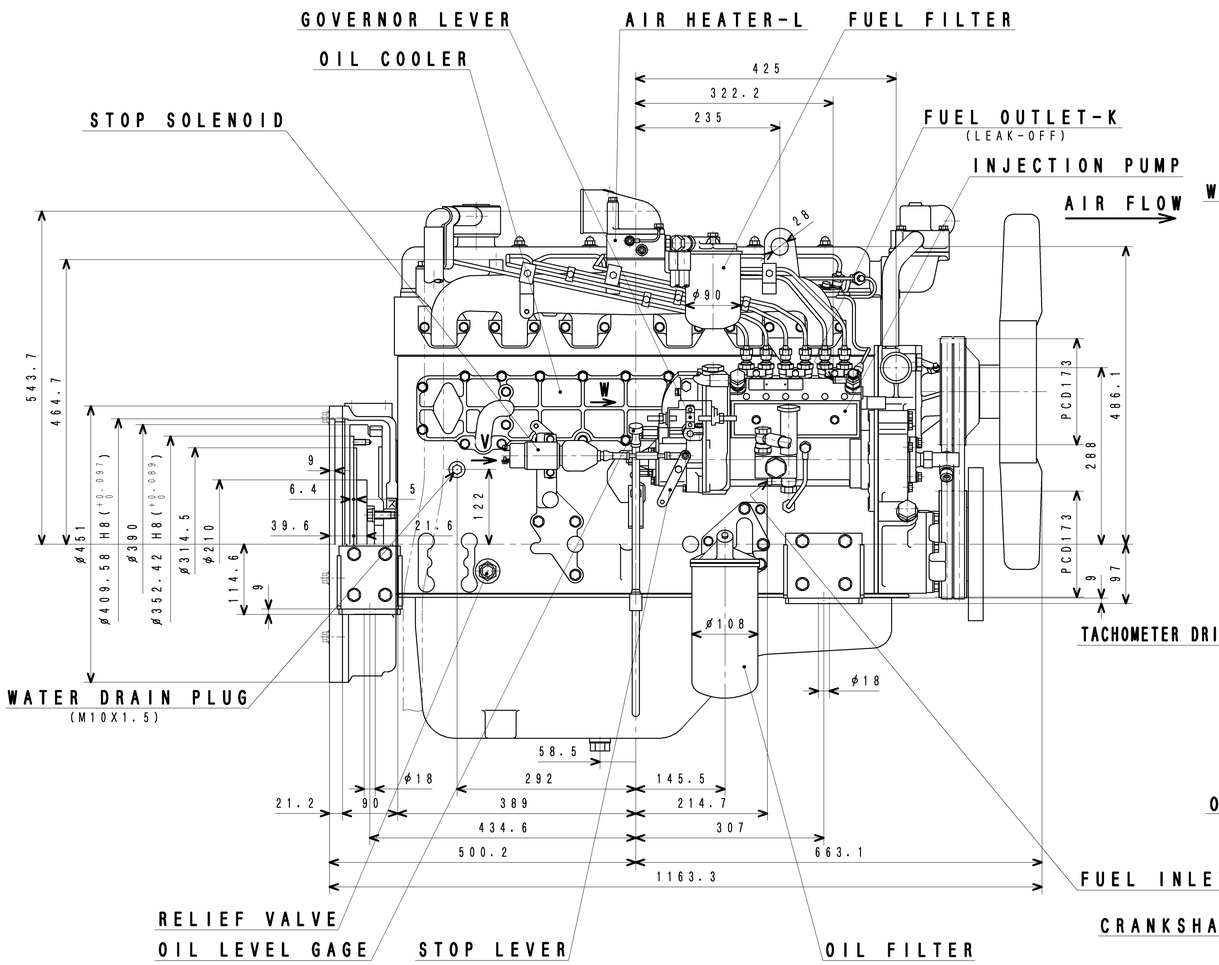
3. Accessories(Loose supply parts)

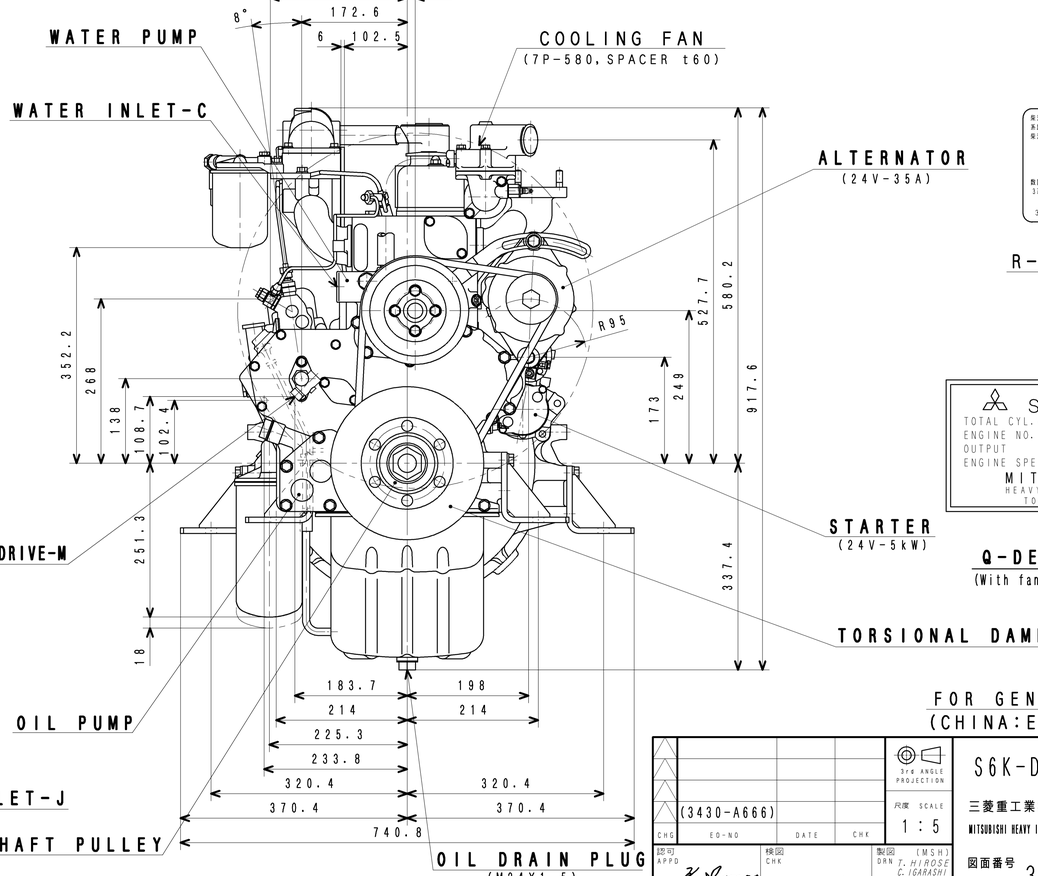
	Parts Name	Parts No.	Q'ty	Remarks	
1	TIMER CONTROL	32B90-02400	1		A4
2	CONNECTOR,3P	MM409-661	1		A4
3	CONNECTOR,4P	MM409-663	1		A4
4	CONNECTOR,2P	MH052-231	1		A4

Note:Drawing No. Subject to alteration without notice









R-DETAIL(1:1)

Q-DETAIL (1:1)
(With fan St-by;69kW/1500rpm)

FOR GENERATOR OEM
(CHINA:EXPORT ONLY)

出図
MHI
相模原
2016
3.17

M/C

CHG	(3430-A666)	EO-NO	DATE	CHK	3rd ANGLE PROJECTION
尺度 SCALE	1 : 5				
認可 APPD	K.Asano	検図 CHK	H.KOMATSU	製図 DRN	(MSH) T.HIROSE C.IGARASHI 2016. 2. 29

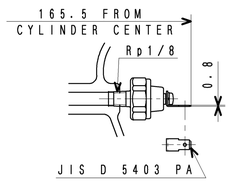
S6K-D65SAG ENG ASSY

三菱重工業株式会社
MITSUBISHI HEAVY INDUSTRIES,LTD.

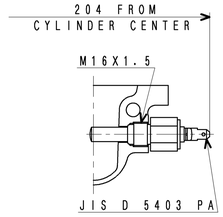
図面番号 34300-02511 1/2
DRAWING NO.

MHI CONFIDENTIAL

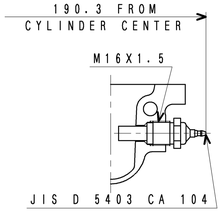
① 新 図 4 旧引図	サイズ A1	② 組立図	1 2 鋳鍛造品 3 板金溶接品 4 組立品 5 切削品 6 その他（購入品）



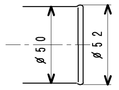
G-DETAIL



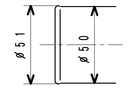
F-DETAIL



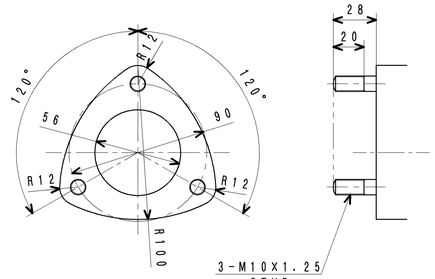
E-DETAIL



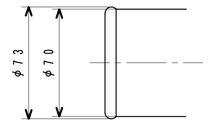
D-DETAIL



C-DETAIL



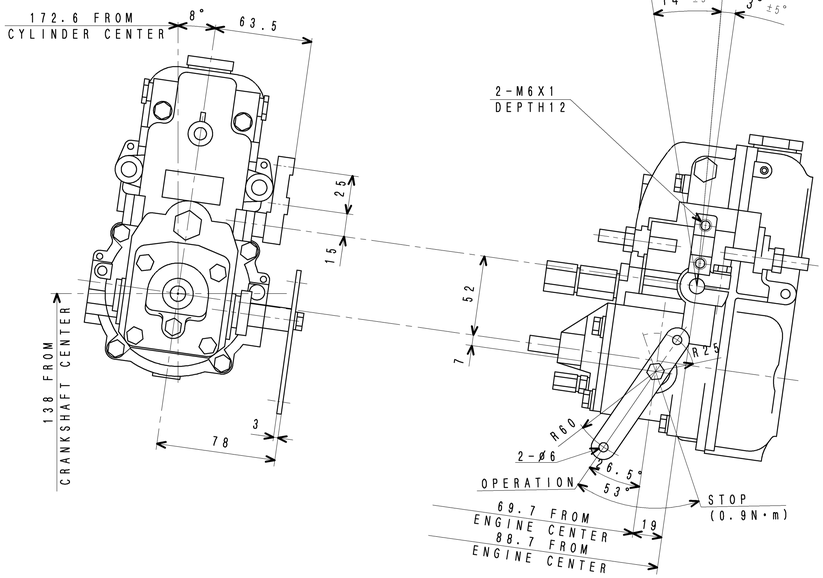
B-DETAIL



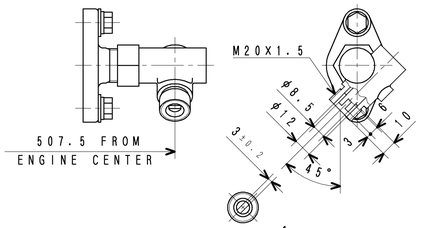
A-DETAIL

J-DETAIL

K-DETAIL

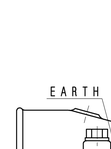


W-VIEW

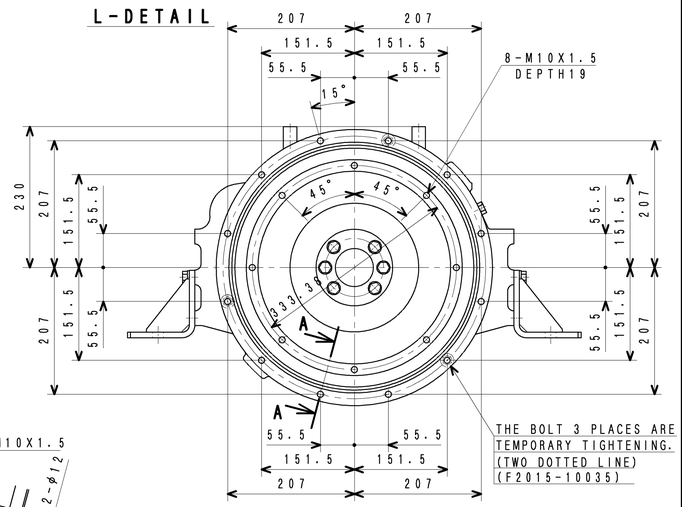


M-DETAIL

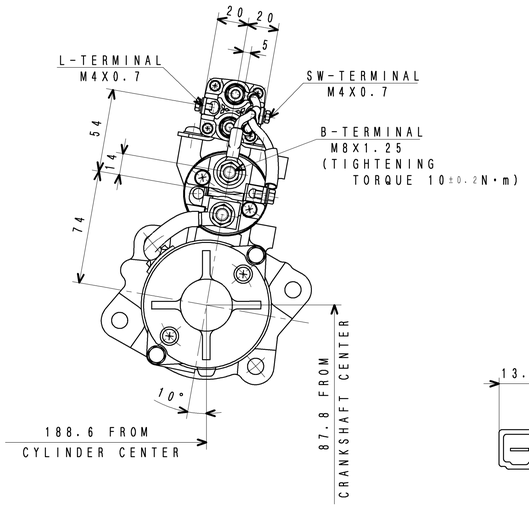
V-VIEW



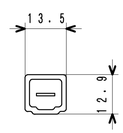
L-DETAIL



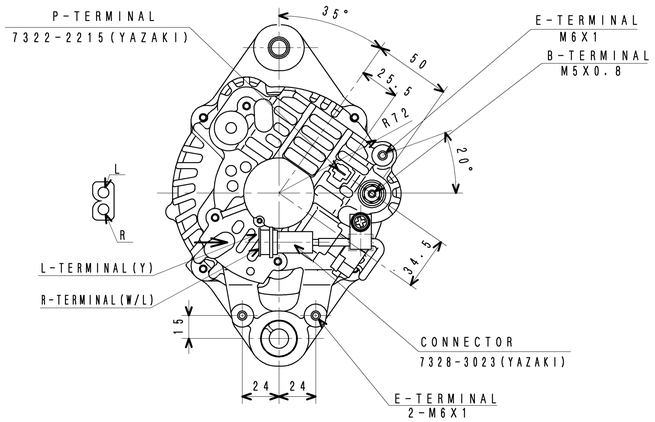
Z-VIEW (1:5)



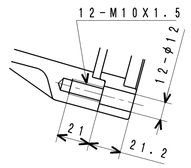
Y-VIEW



P-DETAIL (1:1)



X-VIEW



A-A

出図
MHI
相模原
2016
3.17

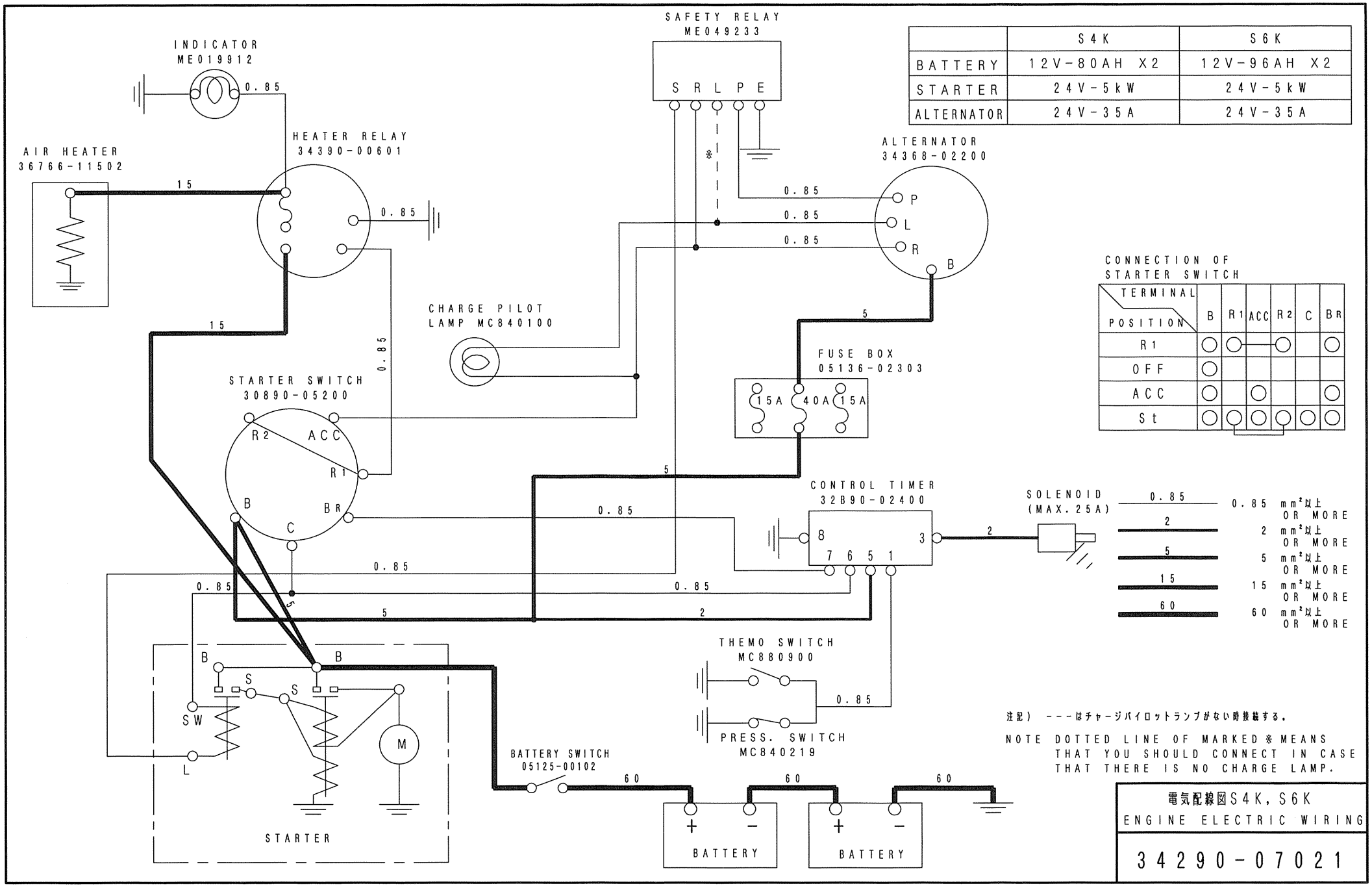
M/C

FOR GENERATOR OEM
(CHINA:EXPORT ONLY)

CHG	(3430-A666)			3rd ANGLE PROJECTION	S6K-D65SAG ENG ASSY
	EO-NO	DATE	CHK	尺度 SCALE 1:2	三菱重工業株式会社 MITSUBISHI HEAVY INDUSTRIES,LTD.
認可 APPD	K.Sano	検図 CHK	H.KOMATSU	製図 (MSH) DRN T.HIROSE C.IGARASHI 2016.2.29	図面番号 DRAWING NO. 34300-02511 2/2

MHI CONFIDENTIAL

① 新図 4 旧引図	サイズ A1	① 組立図	2 鋳鋼歯車品 3 板金溶接品 4 組立品 5 切削品 6 その他(購入品)	



	S4K	S6K
BATTERY	12V-80AH X2	12V-96AH X2
STARTER	24V-5kW	24V-5kW
ALTERNATOR	24V-35A	24V-35A

CONNECTION OF STARTER SWITCH

POSITION \ TERMINAL	B	R1	ACC	R2	C	BR
R1	○	○	—	○		○
OFF	○					
ACC	○		○			○
St	○	○	○	○	○	○

0.85	0.85 mm²以上 OR MORE
2	2 mm²以上 OR MORE
5	5 mm²以上 OR MORE
15	15 mm²以上 OR MORE
60	60 mm²以上 OR MORE

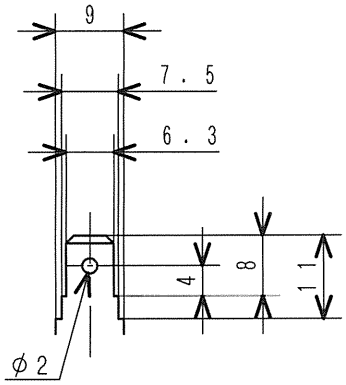
注記） ---はチャージパイロットランプがない時接続する。

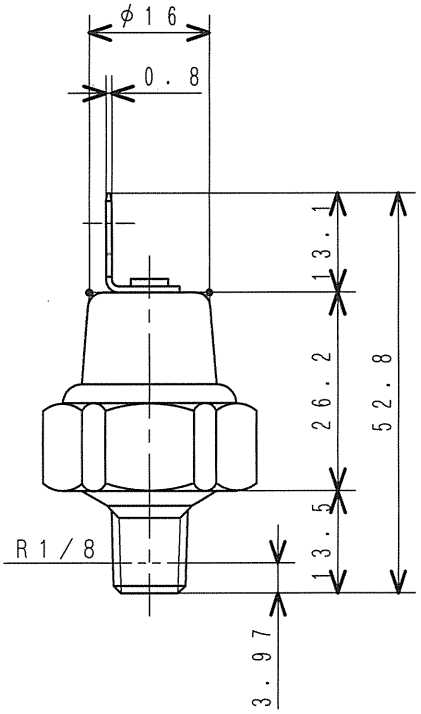
NOTE DOTTED LINE OF MARKED ※ MEANS THAT YOU SHOULD CONNECT IN CASE THAT THERE IS NO CHARGE LAMP.

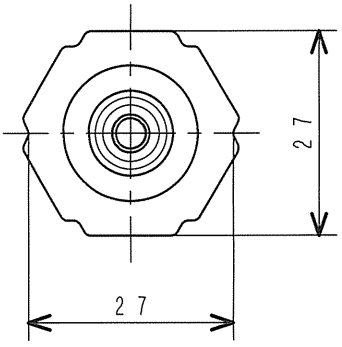
電気配線図S4K, S6K
ENGINE ELECTRIC WIRING

34290-07021

MHI CONFIDENTIAL







仕　様

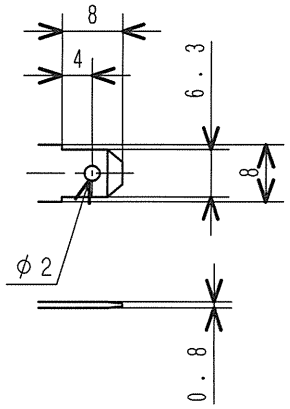
SPECIFICATIONS

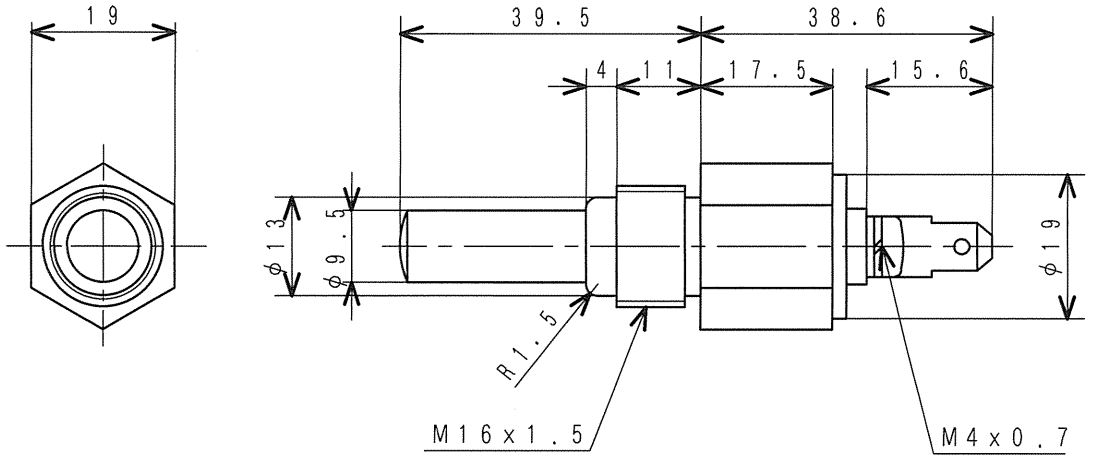
作動圧力 OPERATING PRESS.	49kPa{0.5kgf/cm²}
作動電圧 OPERATING VOLT.	12V−5W 24V−5W

オイルプレッシャスイッチ

SWITCH, OIL PRESSURE

MC840−219



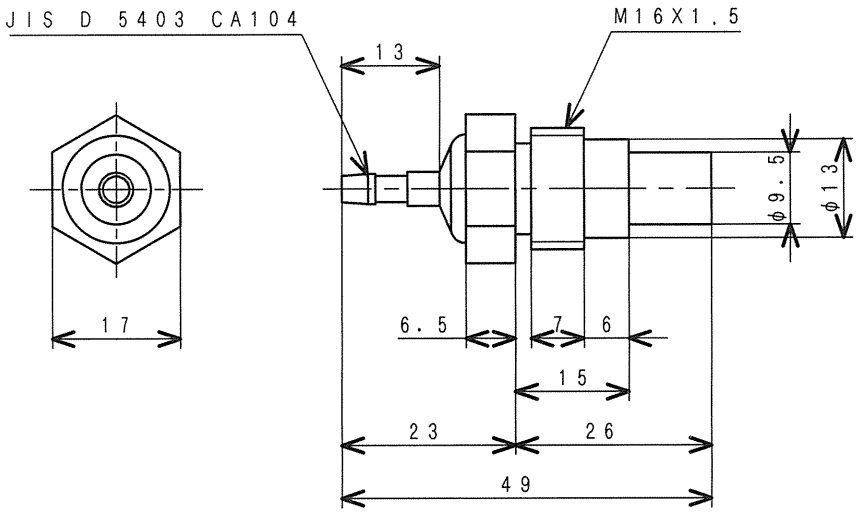


部品番号 PART No.	作動温度 OPERATING TEMP.		
MC880-900	温度下降時 DECREASE	≦100℃±4℃	で接点開 OPEN
	温度上昇時 RISE	≧100℃±2℃	で接点閉 CLOSE
MC880-901	温度下降時 DECREASE	≦105℃±4℃	で接点開 OPEN
	温度上昇時 RISE	≧105℃±2℃	で接点閉 CLOSE

定格負荷 RATED LOADED	1A以下 MAX.	0.5A以下 MAX.
定格電圧 RATED VOLT.	12V	24V

サーモスイッチ
SWITCH, THERMO

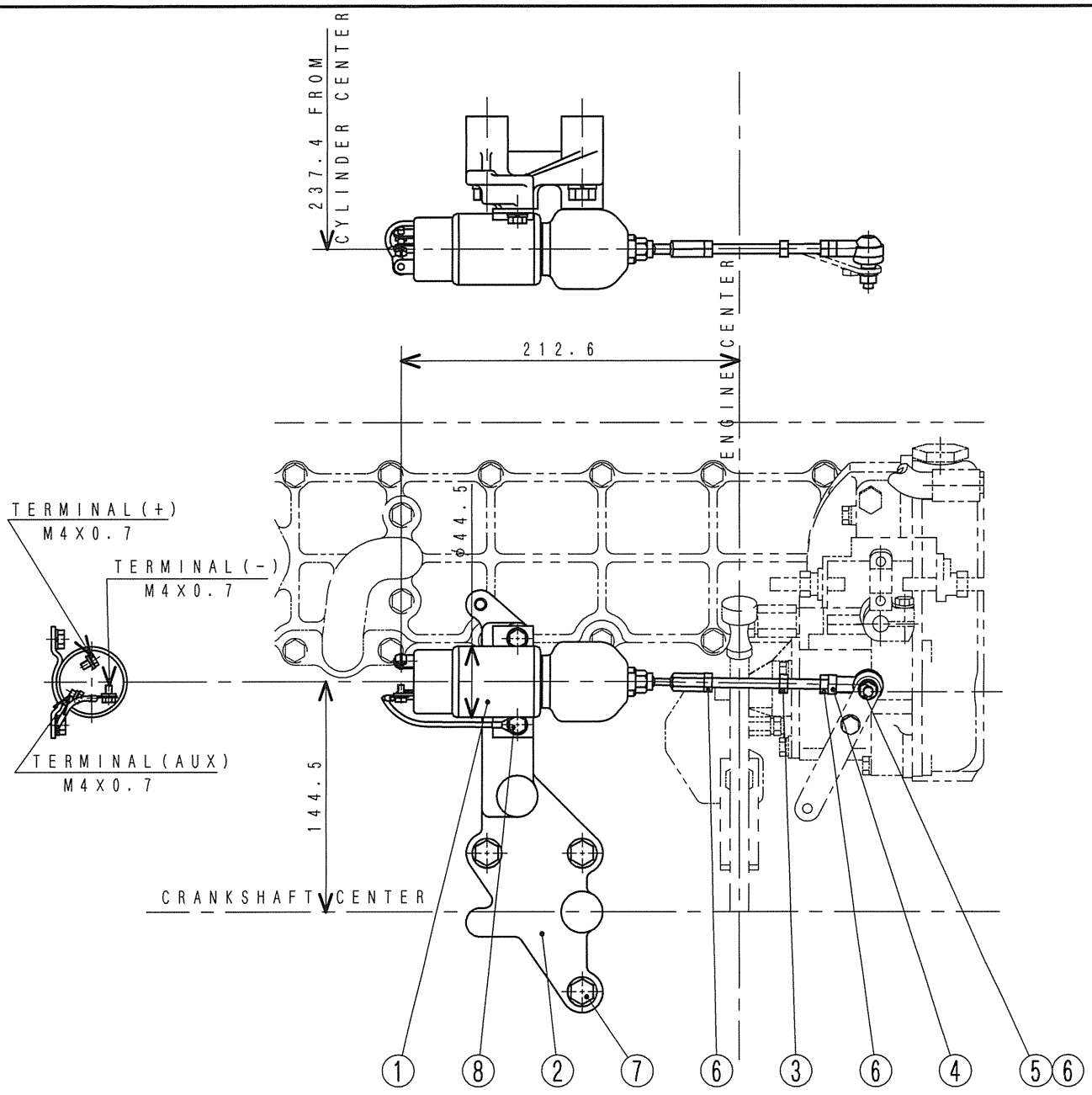
MC880-900



温度 (℃) TEMPERATURE	50	67	70	100	102	110	135
抵抗 (Ω) RESISTANCE	80	44.6	40.9	17.6	16.5	12.8	7

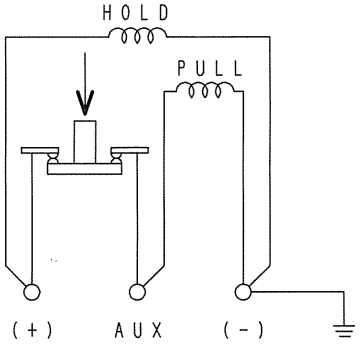
サーモメータユニット
UNIT, THERMOMETER

MD366-869



仕 様（20℃にて）
SPECIFICATIONS(AT 20℃)

定格電圧 RATED VOLT.	DC24V	
	プルインコイル PULL IN COIL	ホールディンコイル HOLD IN COIL
定格電流 RATED CURRENT	24.6A	0.5A
引張力 TENSILE FORCE	89N{9kgf}	180N{18kgf}

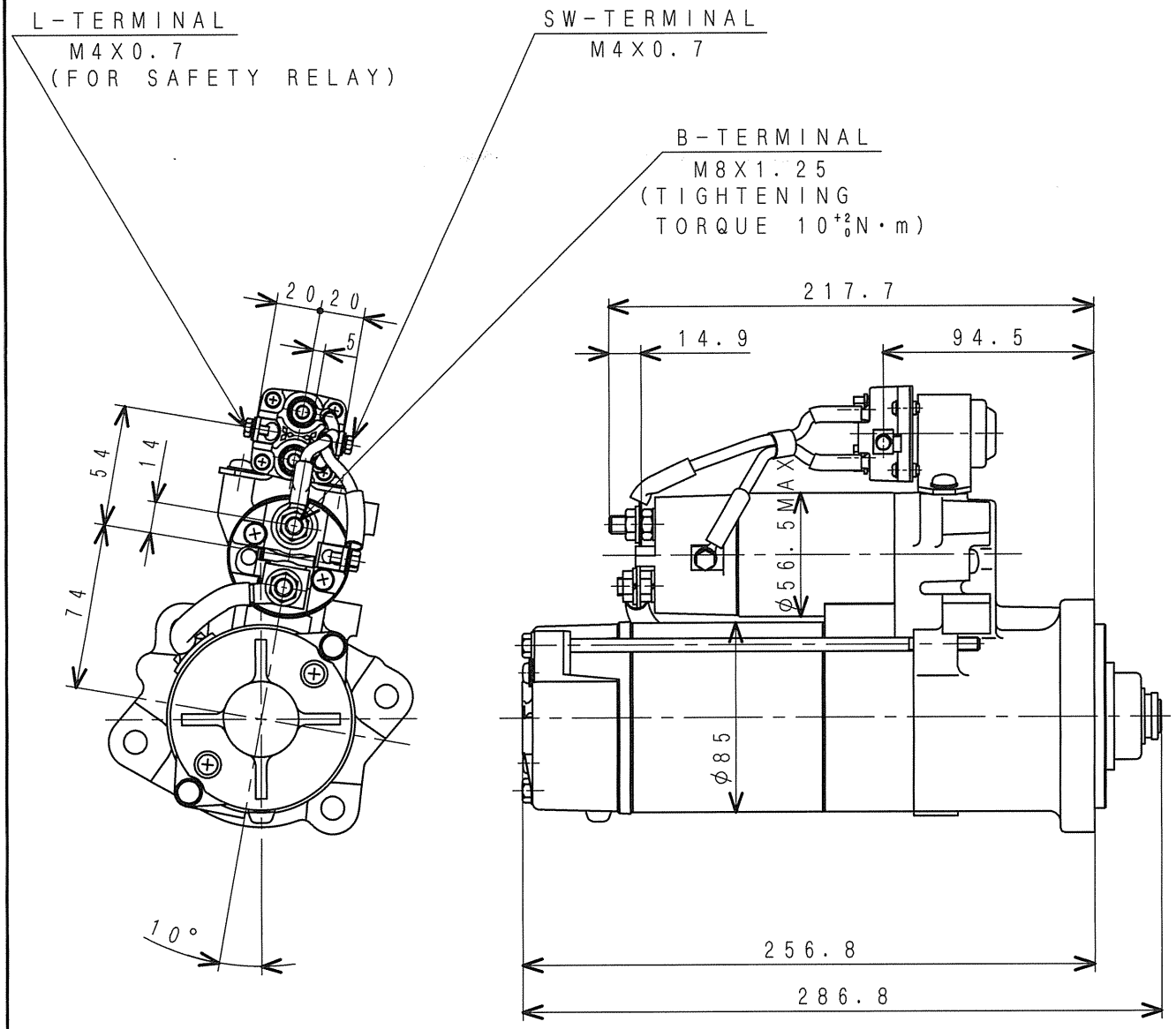


配 線 図
WIRING DIAGRAM

SYM	PART No.	PART NAME	QTY
8	F1825-06012	BOLT W/ASSY	2
7	F2005-10055	BOLT W/ASSY	3
6	F2300-06000	NUT	3
5	F2515-06000	WASHER,SPRING	1
4	32563-06100	L-JOINT	1
3	34287-02603	ROD,SOLENOID	1
2	34387-10800	BRACKET,SOLENOID	1
1	34287-01300	SOLENOID	1

ストップ ソレノイド キット
STOP SOLENOID KIT(S6K)

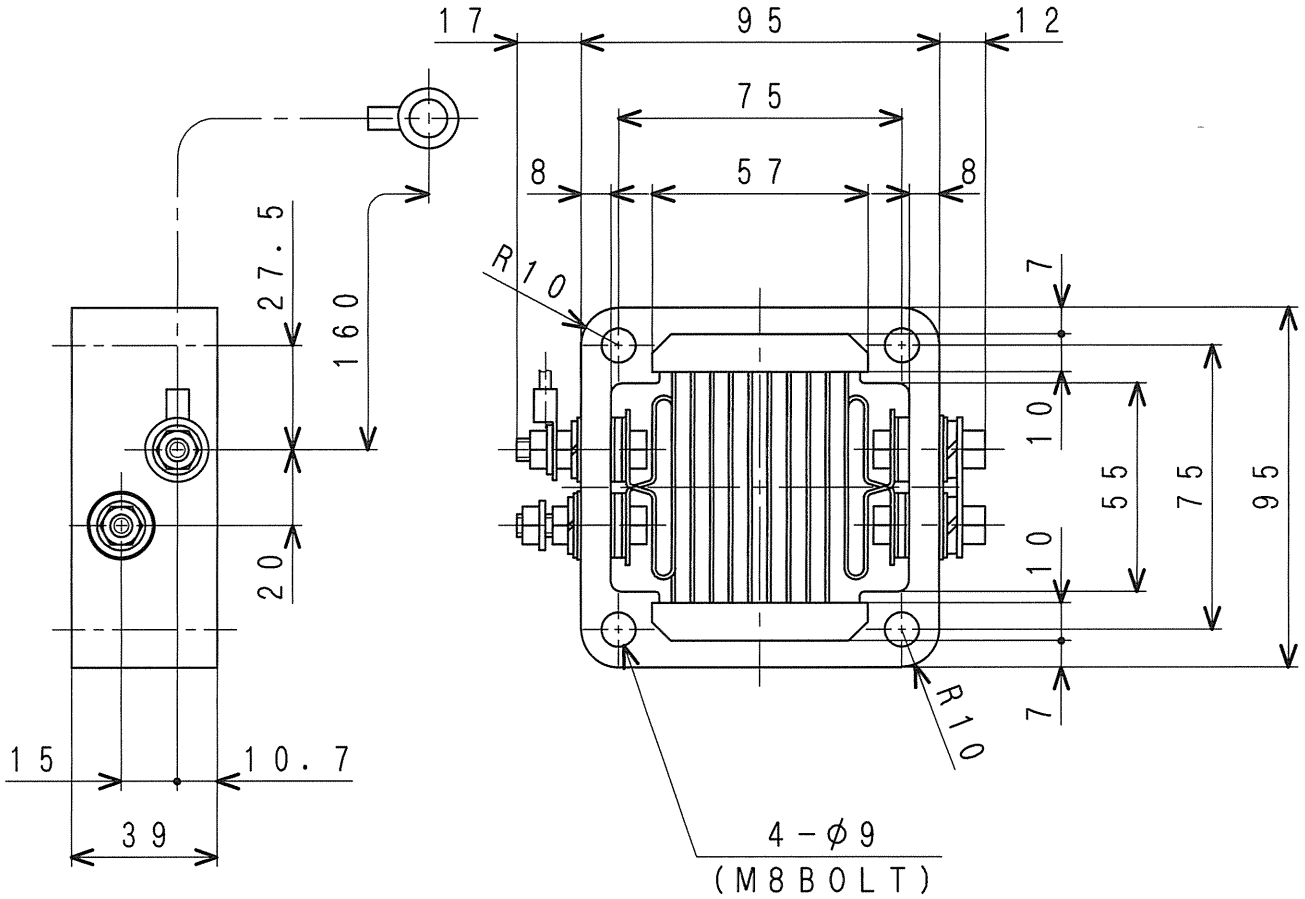
34387-00030



MODEL	PART NO.	RATED OUTPUT OF STARTER	BATTERY(REFERENCE)
S4K, S6K	32B66-12301	24V-5kW	S4K: 80AH X2 ⚠1 S6K: 96AH X2 ⚠1

STARTER (24V-5kW)	32B66-12301

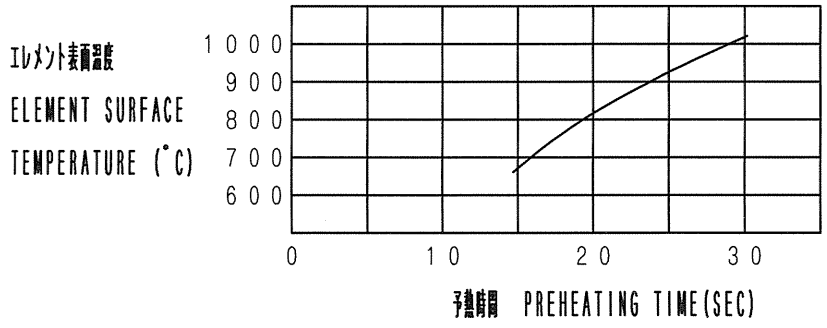
スタータ



仕　様

SPECIFICATIONS

容　量 CAPACITY	2.1kW
定　格　電　圧 RATED CURRENT	95A±10%(AT 22V)

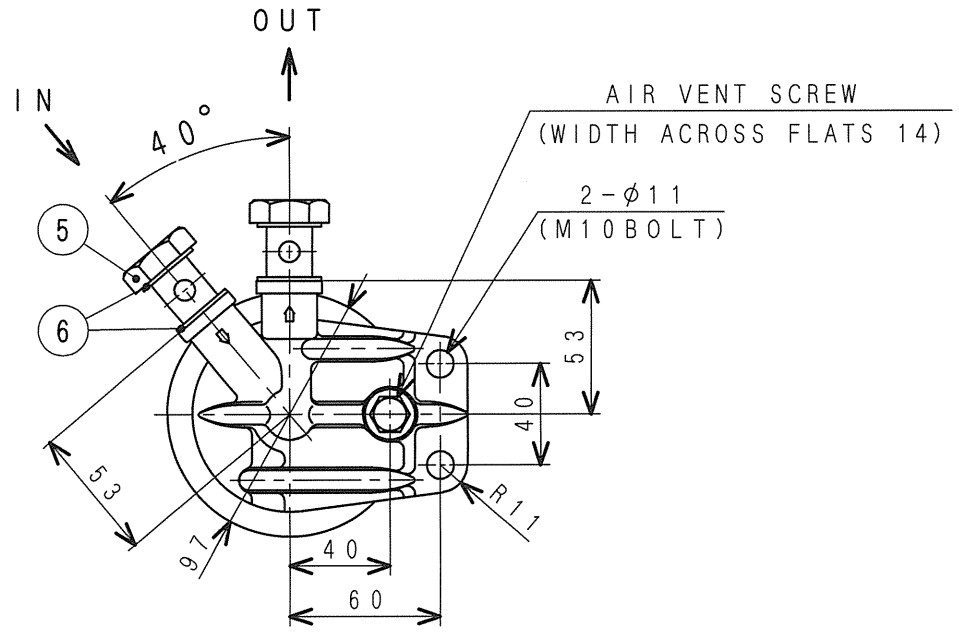


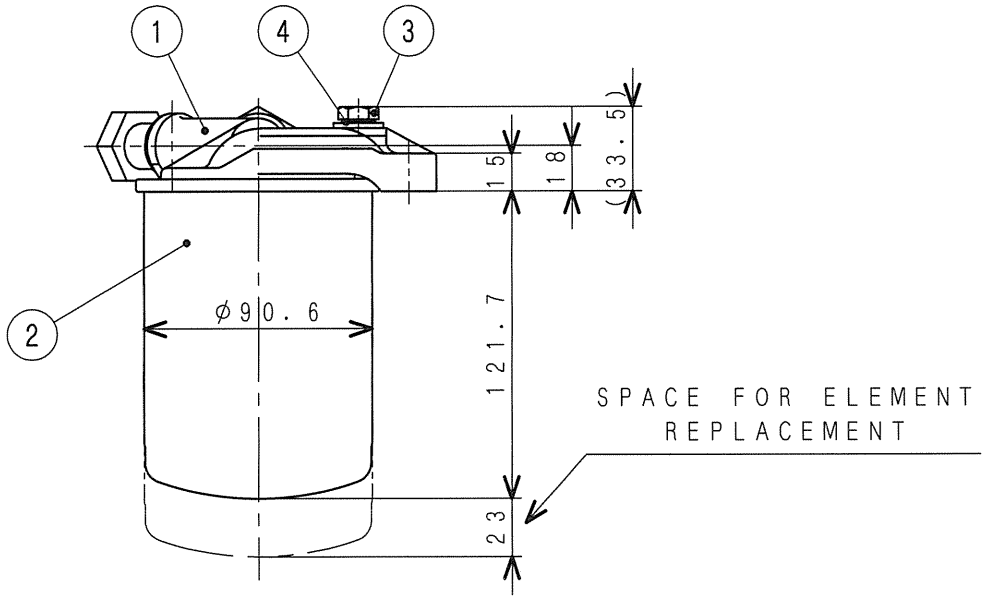
エア　ヒータ　アッシー

AIR HEATER ASSY

36766-11502

MHI CONFIDENTIAL





2. FILTER TIGHTENING TORQE: 13.7±2.0N・m{1.4±0.2kgf・m}
NOTE 1. THEN TIGHTEN 3/4~1 TURN AFTER GASKET CONTACTS BASE.

2. フィルタ締付けトルク：13.7±2.0N・m{1.4±0.2kgf・m}
注 記 1. 取付けはシール面にガスケットが接触してから3/4～1回転締付て下さい。

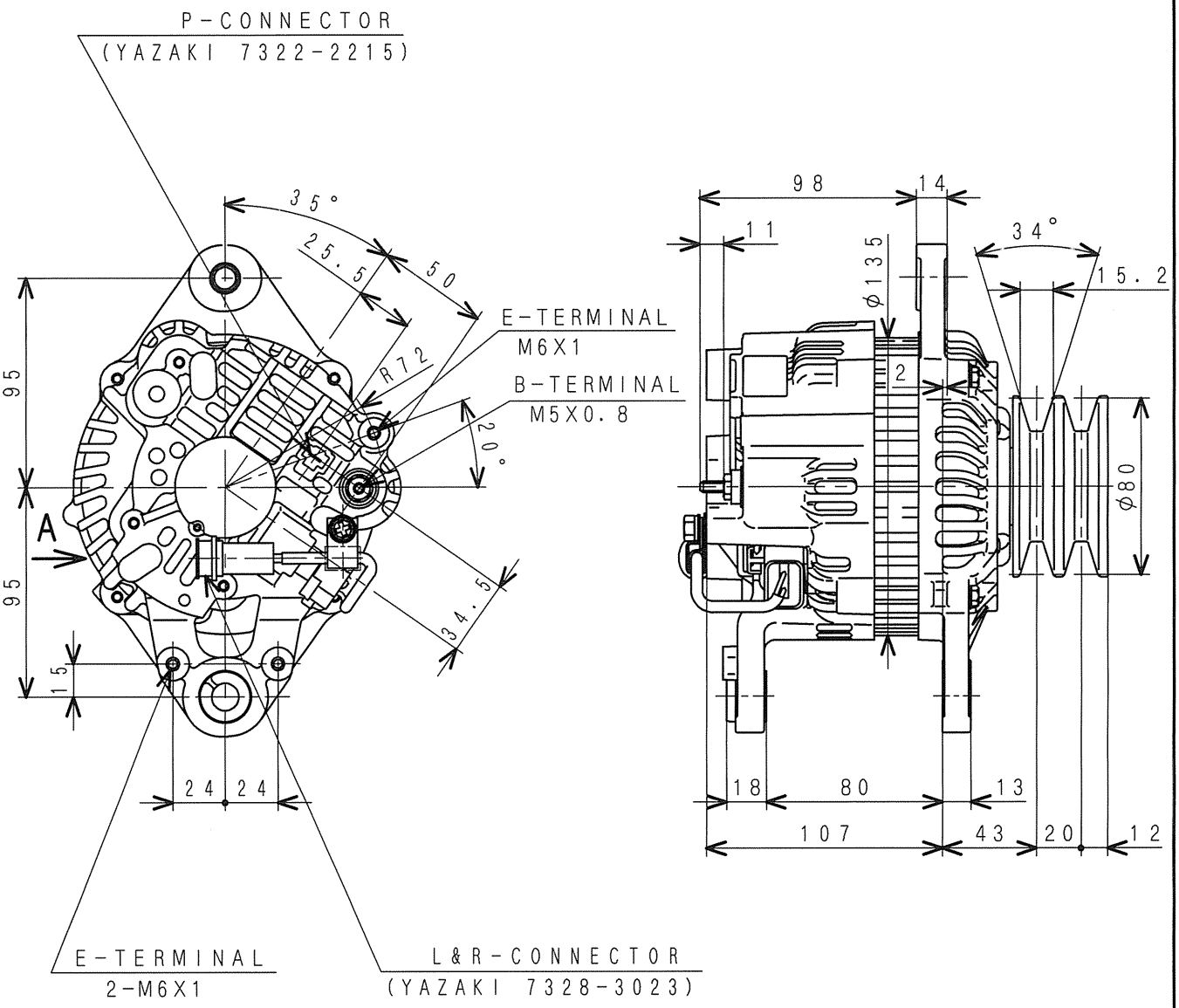
仕 様
SPECIFICATIONS

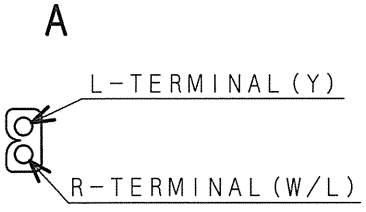
ろ過面積 FILTRATION AREA	3800cm²
定格流量 RATED FLOW	3ℓ/min
乾燥重量 WEIGHT	830g

SYM	PART No.	PART NAME	QTY
6	MH035-069	GASKET	4
5	MH037-087	BOLT, EYE	2
4	MH035-067	GASKET	1
3	ME016-894	PLUG, AIR	1
2	34362-00101	ELEMENT, FUEL	1
1	ME035-672	HEAD, FUEL FILTER	1

ヒュエルフィルタアッシ
FILTER ASSY, FUEL

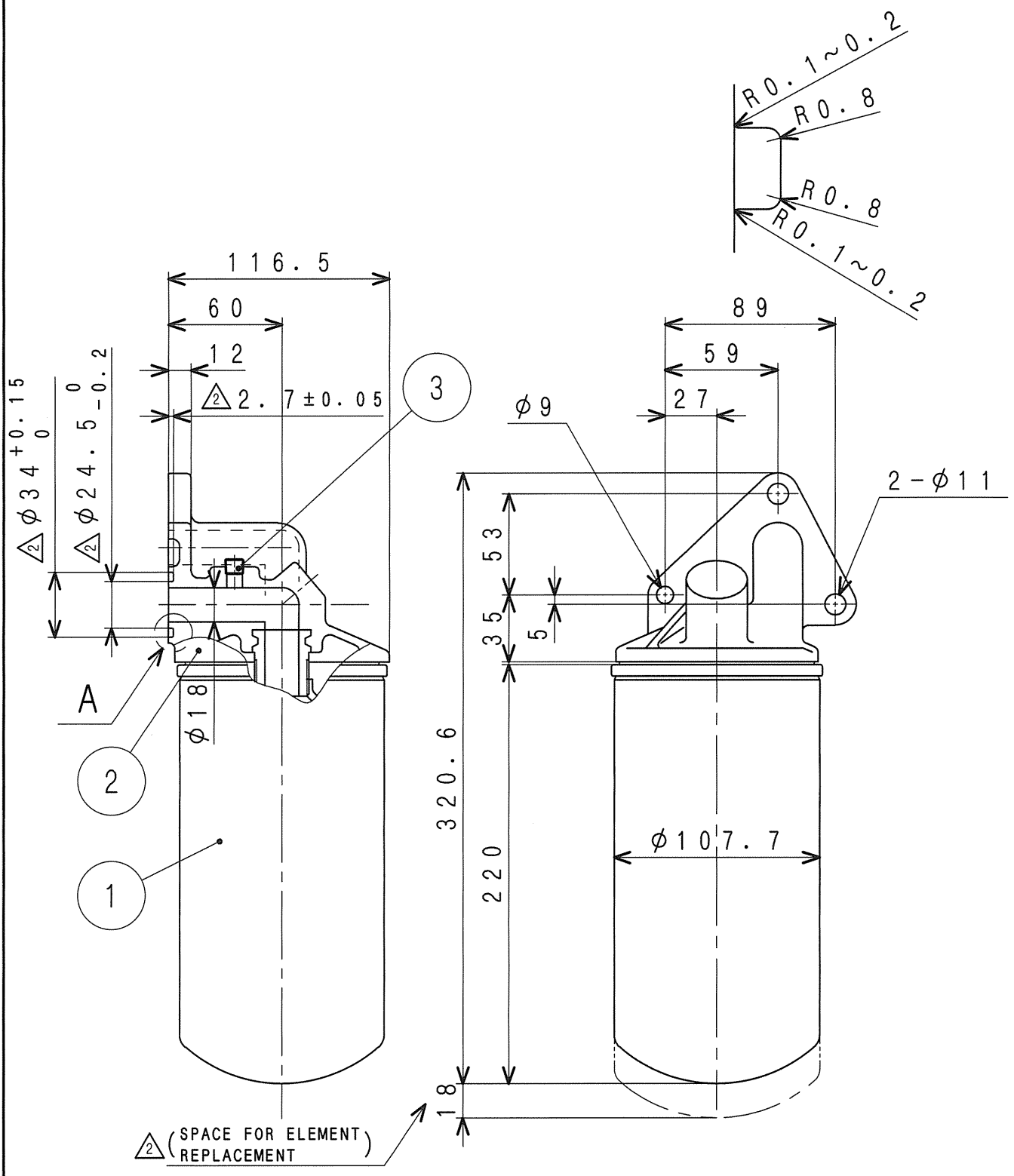
34362-00012





オルタネータ
ALTERNATOR(24V-35A)

34368-04100



仕　様
SPECIFICATIONS

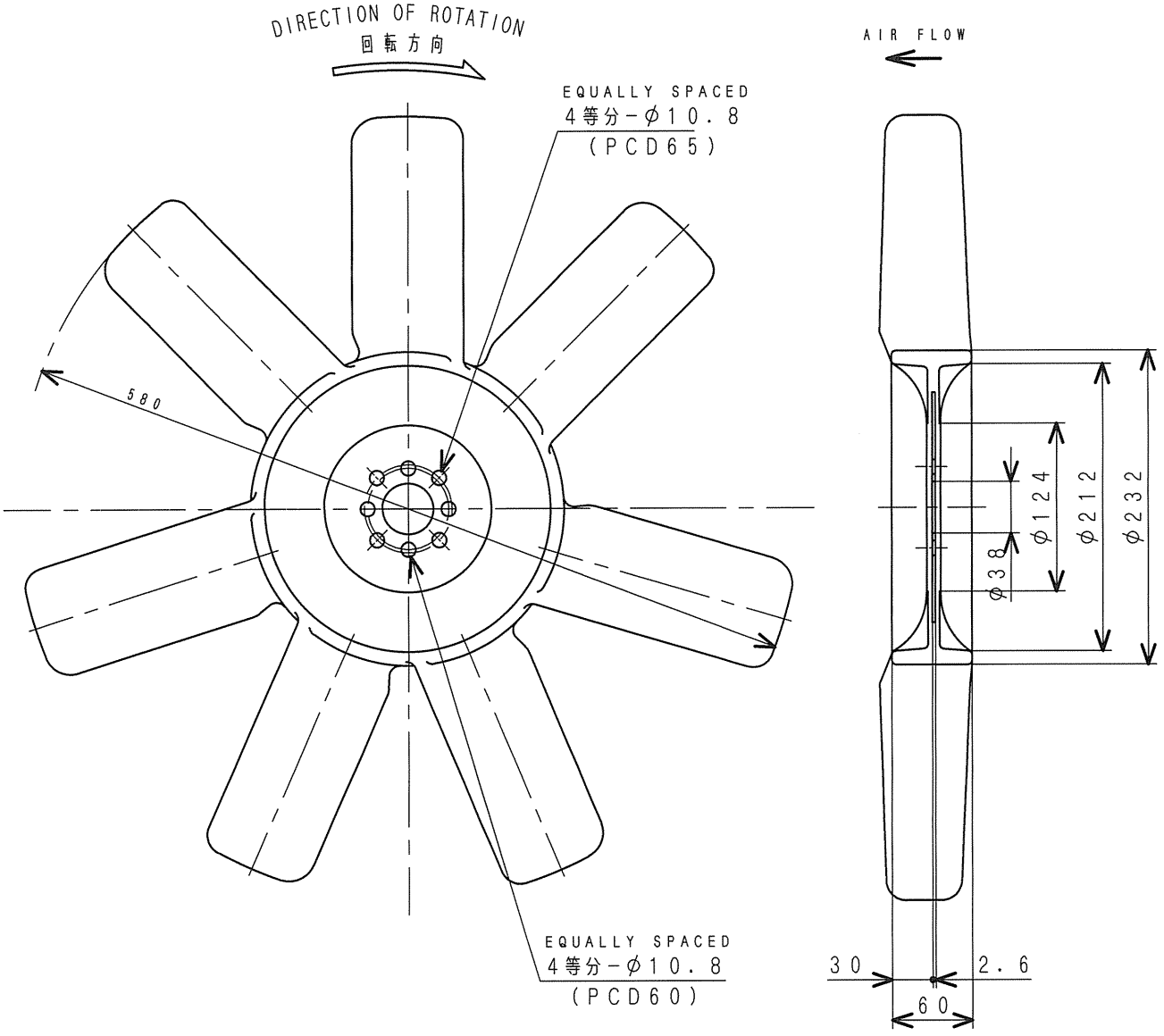
ろ過面積 FILTRATION AREA	0.5m²

△2 SYM	PART No.	PART NAME	QTY
3	F5005-10001	PLUG, TAPER	1
2	34340-10101	ELEMENT, OIL	1
1	34340-00301	BRACKET	1

MATERIAL：ADC他
WEIGHT：1.71kg

オイルフィルタアッシ
OIL FILTER ASSY

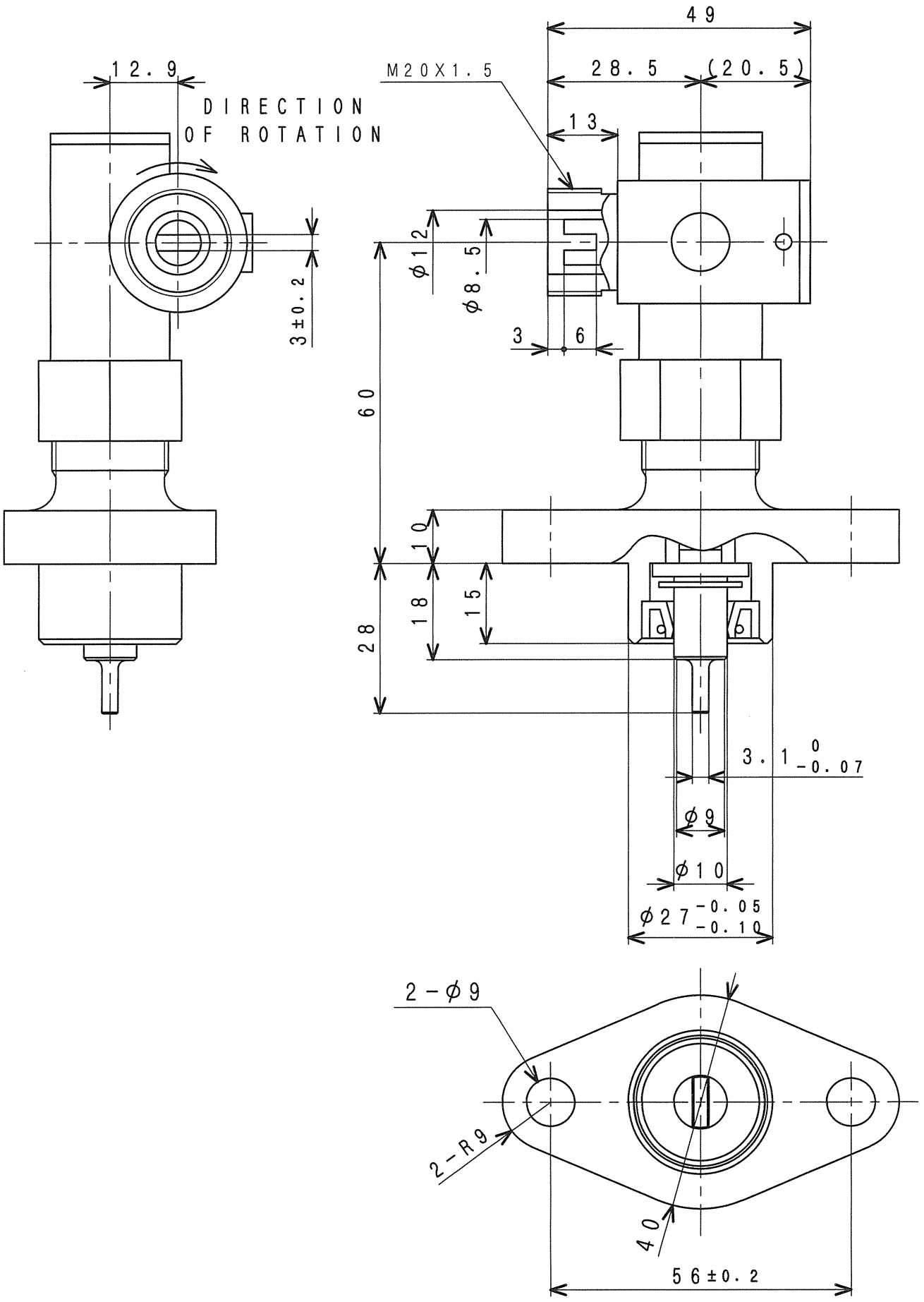
34340-10022△2



クーリング　ファン（プッシャー）

FAN，COOLING（7P－580）

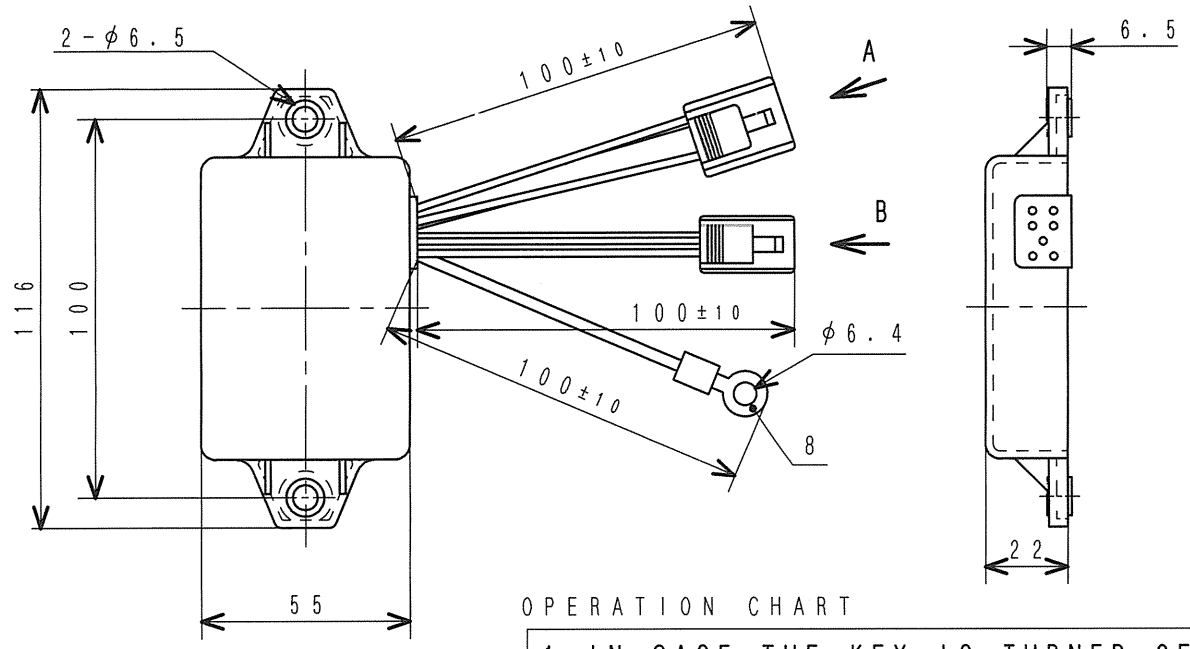
34348－00201

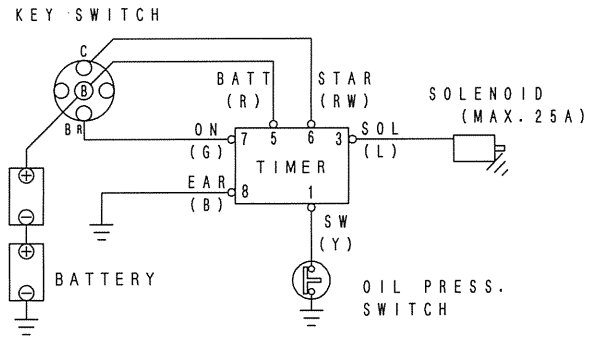


駆動軸と被駆動軸の回転比　1：1

ROTATION RATIO OF DRIVE & DRIVEN SHAFT IS 1:1

L-ジョイント L-JOINT	30625-35020





配線図

WIRING DIAGRAM

連続してキーON/OFF操作を繰り返さないこと。

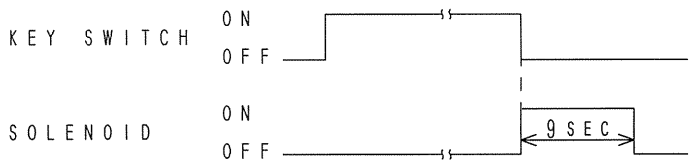
NO CONTINUOUS KEY ON/OFF OPERATION PERMITTED.

部品番号 PART No.	電源電圧(標準) VOLTAGE	許容ソレノイド電流 SOL.MAX.CURRENT	使用温度範囲 AMBIENT TEMP.
32B90-02400	24 V	25 A	-30~+80℃(-22~+176°F)

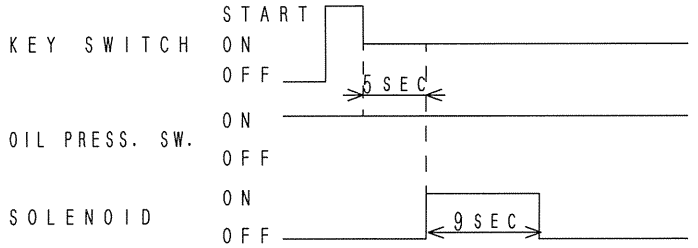
符号 SYM	線色 COLOUR	接続先 CONNECT FAR SIDE
1	YELLOW	油圧スイッチ OIL PRESS.SWITCH
2		(未使用) UNUSED
3	BLUE	ソレノイド(+) SOLENOID
4	BLUE	ソレノイド(-) SOLENOID
5	RED	バッテリー(+) BATTERY
6	RED WHITE	キースイッチ START KEY SWITCH
7	GREEN	キースイッチ ON KEY SWITCH
8	BLACK	アース EARTH

OPERATION CHART

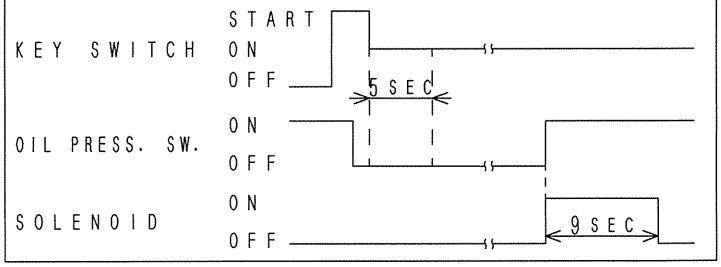
1. IN CASE THE KEY IS TURNED OFF.



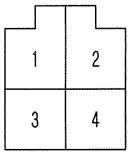
2. IN CASE OIL PRESS.SW. IS ON ALL ALONG.



3. IN CASE OIL PRESS. SW. TURN ON AT ENG RUNNING.

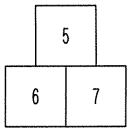


A-VIEW



4 POLES FEMALE
CONNECTOR
7323-2446 (YAZAKI)
TO MATE WITH
MM409-663 (MHI)
7122-2446 (YAZAKI)

B-VIEW

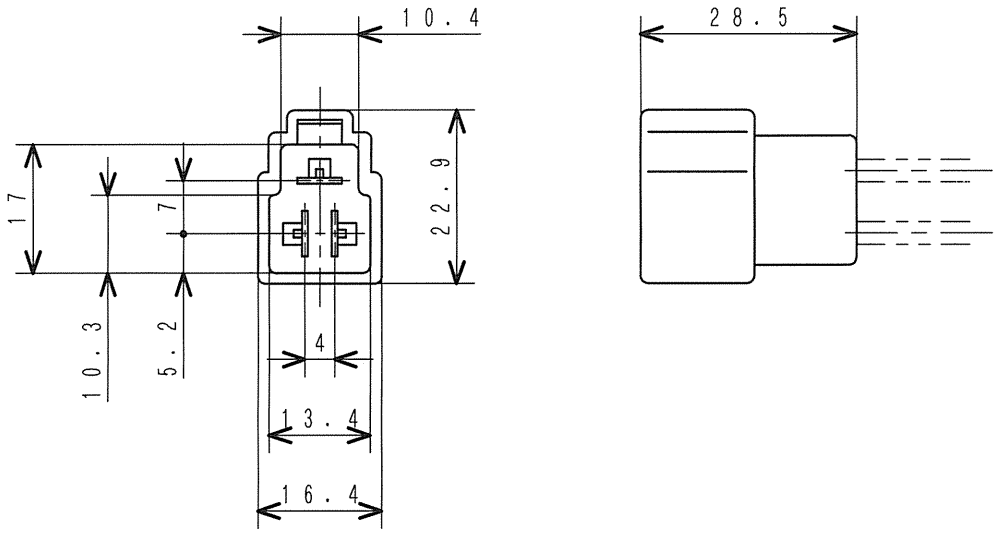


3 POLES FEMALE
CONNECTOR
7323-2237 (YAZAKI)
TO MATE WITH
MM409-661 (MHI)
7322-2237 (YAZAKI)

コントロール タイマ(エマージェンシ リレー)

TIMER, CONTROL (RELAY, EMERGENCY)

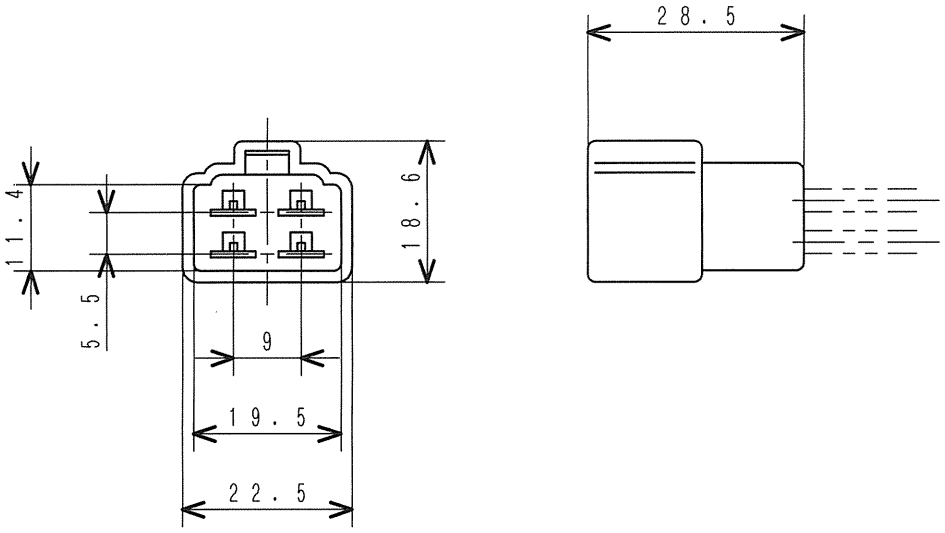
32B90-02400



注　記　コントロールタイマ用　（YAZAKI　7322－2237）

NOTE FOR CONTROL TIMER

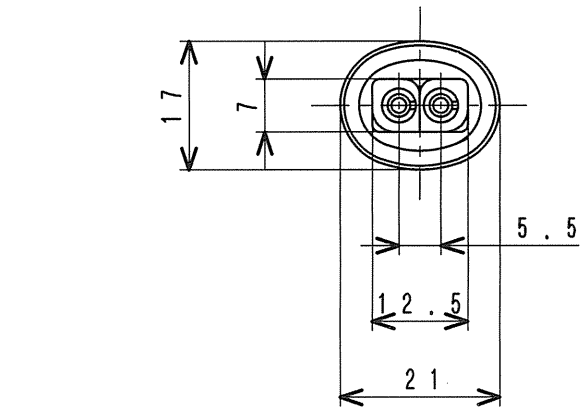
コネクタ CONNECTOR（3POLES）	MM409－661

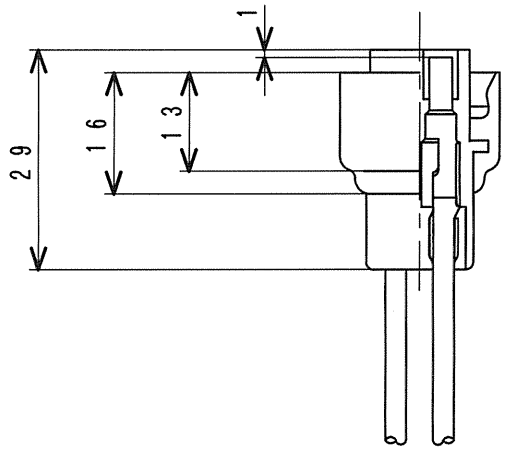


注 記 コントロールタイマ用 （YAZAKI 7122-2446）

NOTE FOR CONTROL TIMER

コネクタ CONNECTOR（4POLES）	MM409-663





注 記 ﾀﾞｲﾅﾓ L，R端子用（SK ENG ALTERNATOR）
油水分離付燃料フィルタ用
NOTE FOR L AND R TERMINALS OF ALTERNATOR(SK)
FOR FUEL FILTER WITH WATER SEPARATOR

コネクタ CONNECTOR（2POLES）	MH052−231