

SINGLE LINE LUBRICATION SYSTEMS

KSP-33□□-□

INSTRUCTION MANUAL

KOWA CORPORATION

2019.1.16

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Pump unit assembly Grease

Pump unit assembly Oil

Pump body assembly Grease

Pump body assembly Oil

2 lit. Tank assembly Grease

2 lit. Tank assembly Oil

1. Composition and specification

(1) Composition

The pump comprises a pump proper, a motor, a gear head, and a tank. The power of the motor is transferred through the gear head to the eccentric cam provided on the shaft of the gear head to drive the plunger by the cam and to feed grease (oil) by pressure.

This pump are provided with two outlets, which can be reduced to one as required, then the delivery quantity is doubled.

Suction and delivery operation of the grease (oil) filled in the tank at the upper part of the pump proper is performed by reciprocating motion of the plunger.

(2) Specification

形 式 Model	適用油 Lubricant	タンク 容 量 (ℓ) Reservoir capacity	吐 出 量 Discharge capacity			吐 出 圧 力 (kg/cm ²) Discharge pressure	減速比 Reduction ratio	電 動 機 Motor		重 量 (kg) Weight
			cc./min		cc./ Stroke			出力(W)	電 極(P)	
			50Hz	60Hz						
KSP-33G1	グリース Grease	2	17×2	21×2	0.2	150	1/18	40	4	9.8
KSP-33G2			12×2	15×2		210	1/25			
KSP-33G3			6×2	7×2			1/50			
KSP-33L1	オイル Oil	2	17×2	21×2	0.2	100	1/18	40	4	9.8
KSP-33L2			12×2	15×2			1/25			
KSP-33L3			6×2	7×2			1/50			

※電動機電圧 Voltage of Motor

KSP-33□-□

└ 1=AC100V 1φ

2=AC200V 3φ

4=AC400V 3φ

注) ●ローレベルスイッチ付の場合は形式の後に-LSがつきます。

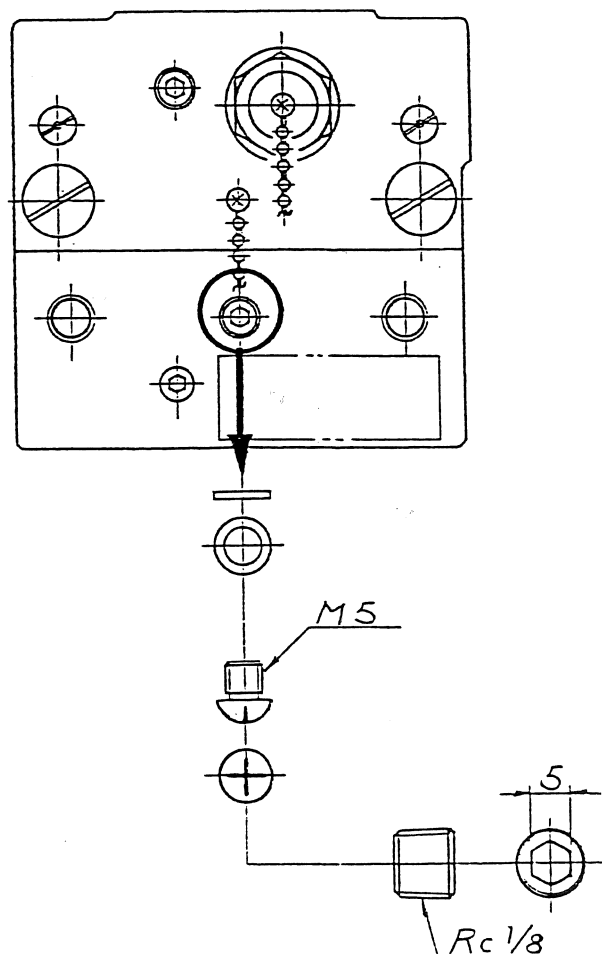
\ (例: KSP-33G1-2-LS)

Note) For the reservoir with a low level switch, the model number is affixed with -LS. (Ex.: KSP-33G1-2-LS)

- (1) Select a proper place convenient for servicing.
- (2) Avoid places exposed to dust, heat or water.
- (3) Avoid vibrating places.
- (4) Install horizontally.

This pump has two delivery ports, however, they may be joined into one.

Screw the blind plug back into the same place, and also plug one of the delivery ports. The will deliver this pump with only one delivery port, if it is stated upon your purchase order.



4. Trial run and adjustment

(1) Grease filling

Remove the cap of the grease feeding port on the pump proper and supply grease with a grease filling pump (KGP-420 for example). In filling grease, pay attention to the following points.

- 1) Be sure to supply clean grease at all times
- 2) Be sure to supply grease through the grease feeding inlet. If the top cover of the tank is opened to supply grease, air and dust are allowed inside, which can cause troubles.
- 3) Since property of grease differs depending on the kind, use the kind of grease suitable to the lubrication condition. Extreme-pressure grease of about 310 to 400 denseness (NLGI No. 1 to No. 0) shall be used for this pump.

(2) Oil filling

Open the top cover of the tank and supply oil through the filter.

In filling oil, pay close attention to the following points.

- 1) Supply clean oil to the tank at all times.
- 2) Be sure to keep the oil level between the upper and lower limits. (0.55 liter tank)

(3) Lubrication check

1) Turning direction of motor

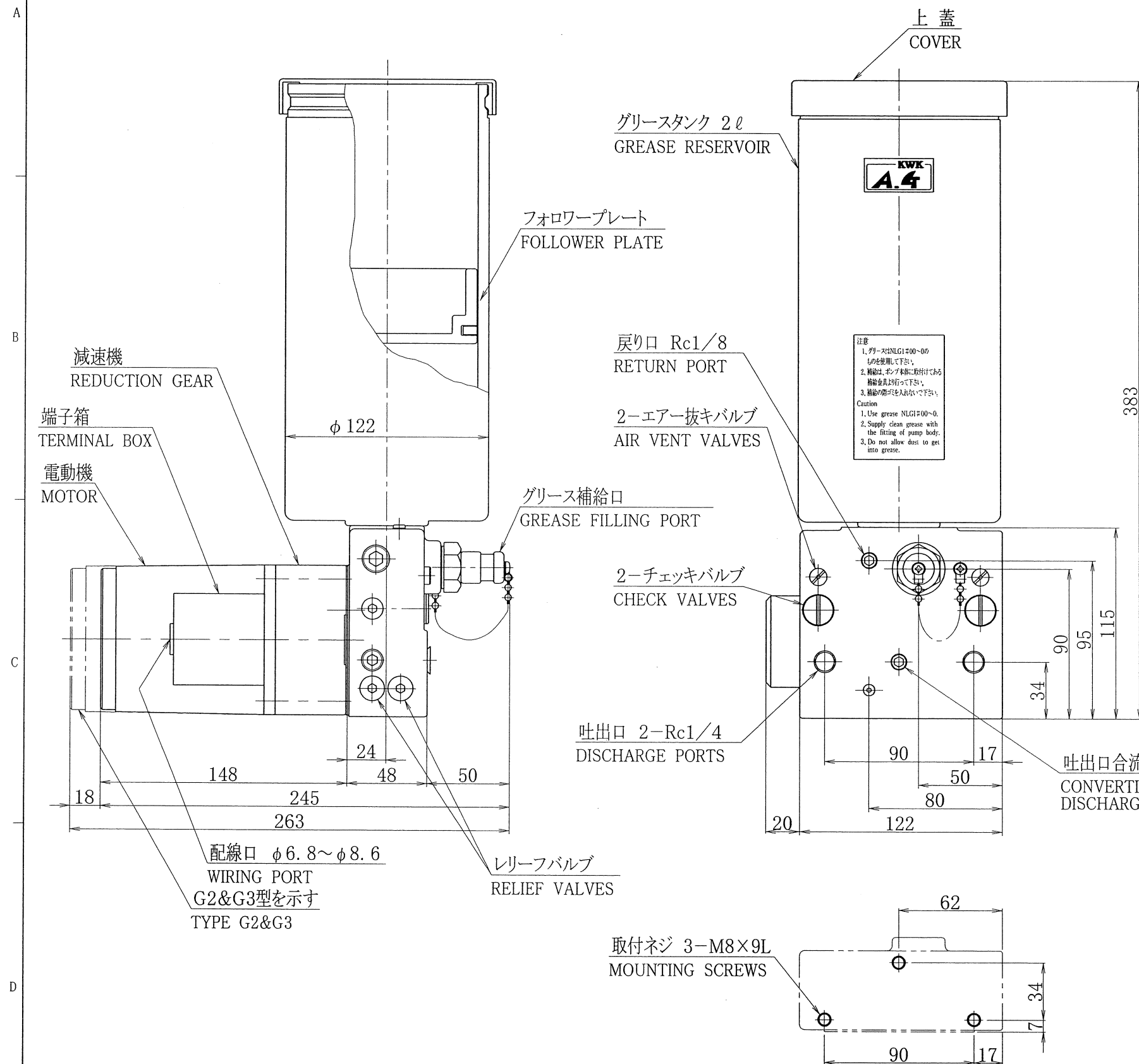
Since the motor of this pump can be turned in either direction, there is no need to check the turning direction.

2) Air drawing

Loosen the air vent plug on the pump proper, make sure that the grease (oil) is free from any air bubble, then tighten the plug.

5. Trouble-shooting

Trouble	Cause	Point to check and counter-measure
Motor does not turn. (Malfunction of pump)	Trouble in electrical system	Check the electrical system and repair.
	Foreign matter is caught by plunger.	Repair or replace the pump.
Though motor turns, no grease (oil) comes out.	Tank is empty.	Supply grease (oil).
	Air is allowed inside.	Loosen air vent plug and operate pump until grease (oil) comes out.
	Foreign matter is caught by check valve of the pump.	Overhaul the check valve or replace the parts.
	Dust is caught by the relief valve.	Overhauling.
Distribution change-over valve and distribution valve do not operate.	Foreign matter is caught by inside piston.	Overhaul or replace the distribution change-over valve and the distribution valve.
	Air is trapped.	Loosen the joints at the outlet of the distribution change-over valve and the distribution valve, or loosen the air vent screw to discharge the air.
	Grease (oil) leakage in the middle of main pipe, or feed-oil pipe, or from joints, or the pipes or joints are broken.	Check the condition of each pipe and retighten the pipes and joints or replace.



仕様 Specification

型 式	適用油	タンク容 量 (ℓ)	吐出量 Discharge capacity		吐 出 圧 力 (MPa)	減速比	電動機 Motor		質 量 (kg)	
Model	Lubri- cate	Reservoir capacity	cm³/min 50Hz 60Hz	cm³/ st.	Discharge pressure	Reduction ratio	出力(W)	極数(P)	Mass	
KSP-33G1	グリース Grease	2	17×2	21×2	0.2	14.7	1/18	40	4	9.8
KSP-33G2			12×2	15×2		1/25				
KSP-33G3			6×2	7×2		1/50				

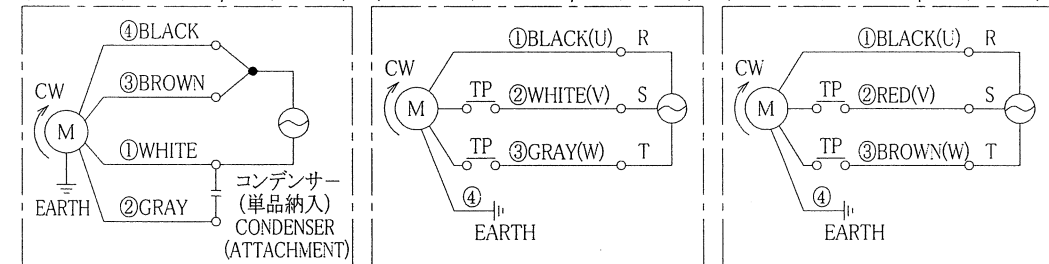
電動機電圧 Voltage of Motor

KSP-33G□-□

- 1=AC100V/110V 1 ϕ 50/60Hz
 2=AC200V/220V 3 ϕ 50/60Hz
 4=AC400V/440V 3 ϕ 50/60Hz
 1=83/100rpm 50/60Hz
 2=60/ 72rpm 50/60Hz
 3=30/ 36rpm 50/60Hz

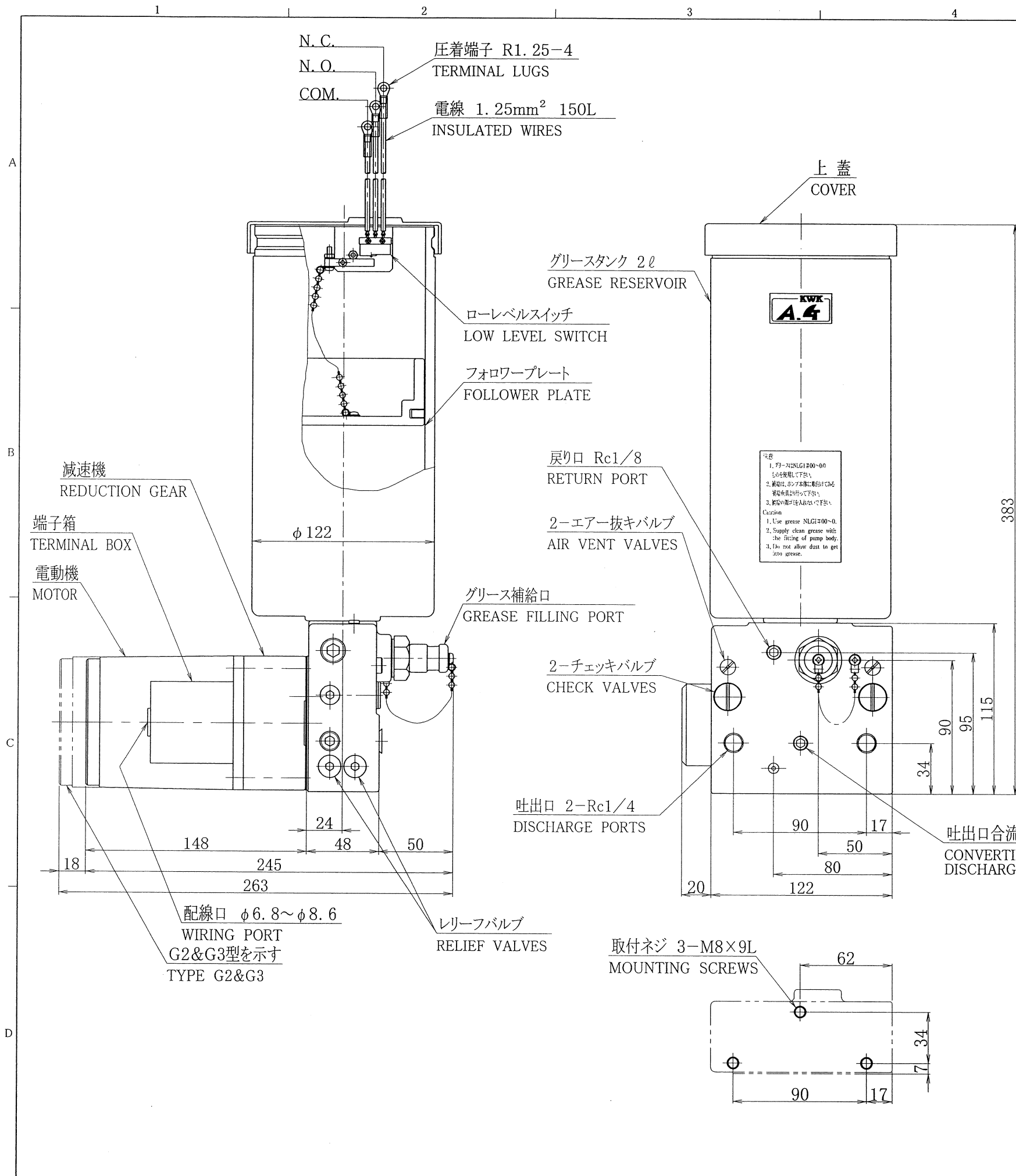
モ一タ結線図

WIRING FOR MOTOR

(AC100V/110V 1 ϕ 50/60HZ) (AC200V/220V 3 ϕ 50/60Hz) (AC400V/440V 3 ϕ 50/60Hz)

CUSTOMER			
SPECIFICATION			
CHECKED BY 10.5.10	DRAWN BY Y. M	電動式給油ポンプ MOTOR-DRIVEN LUBRICATING PUMP KSP-33G□-□	
SPECIAL CHECK	DESIGNED BY Y. M		
10.5.10			
KOWA CORP.		DWG. No. KS-803864 	
OSAKA JAPAN		CFD. No.	
		CODE No.	
 3RD ANGLE PROJECTION		SCALE	1/2

図面来歴	
△	モーターメーカー変更による修正。 2003.2.28 中島
△	フローワープレート変更 2010.5.12 大門
△	
△	



仕様 Specification

型式 Model	適用油 Lubri- cate	タンク 容量 (ℓ) Reservoir capacity	吐出量 Discharge capacity		吐出 圧力 (MPa) Discharge pressure	減速比 Reduction ratio	電動機 Motor		質量 (kg) Mass
			cm³/min 50Hz	cm³/min 60Hz			出力(W) 出力(W)	極数(P) 極数(P)	
KSP-33G1	グリース Grease	2	17×2	21×2	14. 7 20. 6	1/18 1/25 1/50	40	4	9. 8
KSP-33G2			12×2	15×2					
KSP-33G3			6×2	7×2					

電動機電圧 Voltage of Motor

KSP-33G□-□-LS

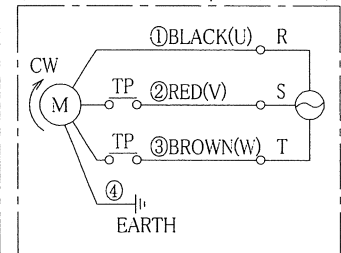
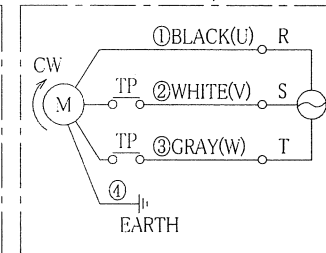
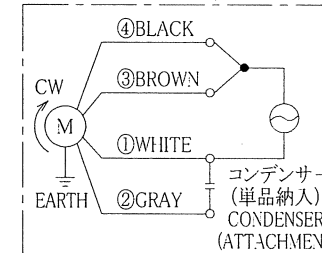
- 1=AC100V/110V 1φ 50/60Hz
- 2=AC200V/220V 3φ 50/60Hz
- 4=AC400V/440V 3φ 50/60Hz

- 1=83/100rpm 50/60Hz
- 2=60/ 72rpm 50/60Hz
- 3=30/ 36rpm 50/60Hz

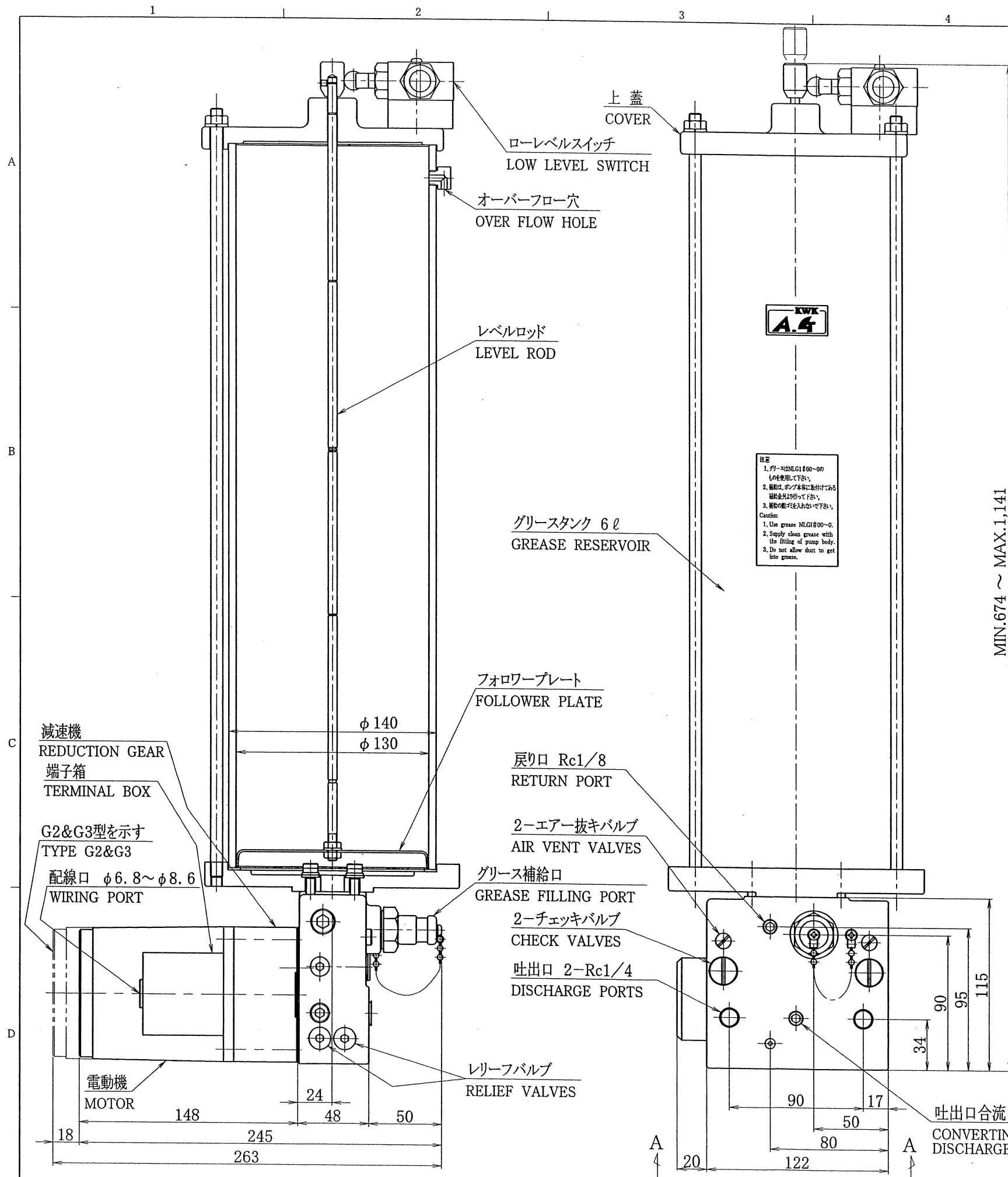
モータ結線図

WIRING FOR MOTOR

(AC100V/110V 1φ 50/60Hz) (AC200V/220V 3φ 50/60Hz) (AC400V/440V 3φ 50/60Hz)



CUSTOMER			
SPECIFICATION			
DESIGNED BY	Y. M	電動式給油ポンプ(ローレベルスイッチ付) MOTOR-DRIVEN LUBRICATING PUMP (WITH LOW LEVEL SWITCH) KSP-33G□-□-LS	
DRAWN BY	Y. M		
SEC. CHIEF	Y. M		
DWG. No. KS-803505		△	
CFD. No.			
CODE No.			
OSAKA JAPAN			
3RD ANGLE PROJECTION		SCALE 1/2	



仕様 Specification

型式 Model	適用油 Lubri- cate	タンク 容量 (ℓ) Reservoir capacity	吐出量 Discharge capacity cm ³ /min 50Hz 60Hz cm ³ /st.	吐出 圧力 (MPa) Discharge pressure	減速比 Reduction ratio	電動機 Motor 出力(W) 極数(P)	質量 (kg) Mass
KSP-33G1	グリース Grease	6	17×2 21×2	14.7	1/18	40 4	21.0
KSP-33G2			12×2 15×2	20.6	1/25		
KSP-33G3			6×2 7×2		1/50		

電動機電圧 Voltage of Motor

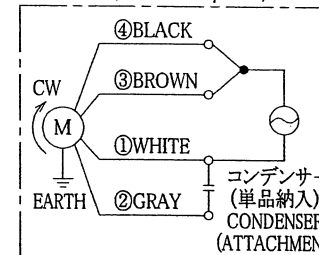
KSP-33G□-□-6L-LS

- 1=AC100V/110V 1φ 50/60Hz
- 1=83/100rpm 50/60Hz
- 2=AC200V/220V 3φ 50/60Hz
- 2=60/ 72rpm 50/60Hz
- 4=AC400V/440V 3φ 50/60Hz
- 3=30/ 36rpm 50/60Hz

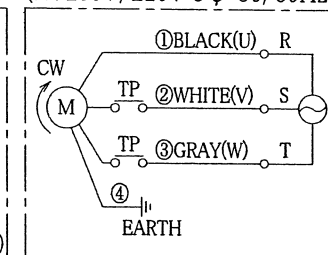
モータ結線図

WIRING FOR MOTOR

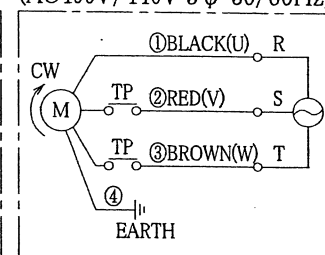
(AC100V/110V 1φ 50/60Hz)



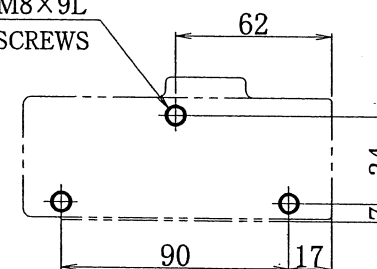
(AC200V/220V 3φ 50/60Hz)



(AC400V/440V 3φ 50/60Hz)



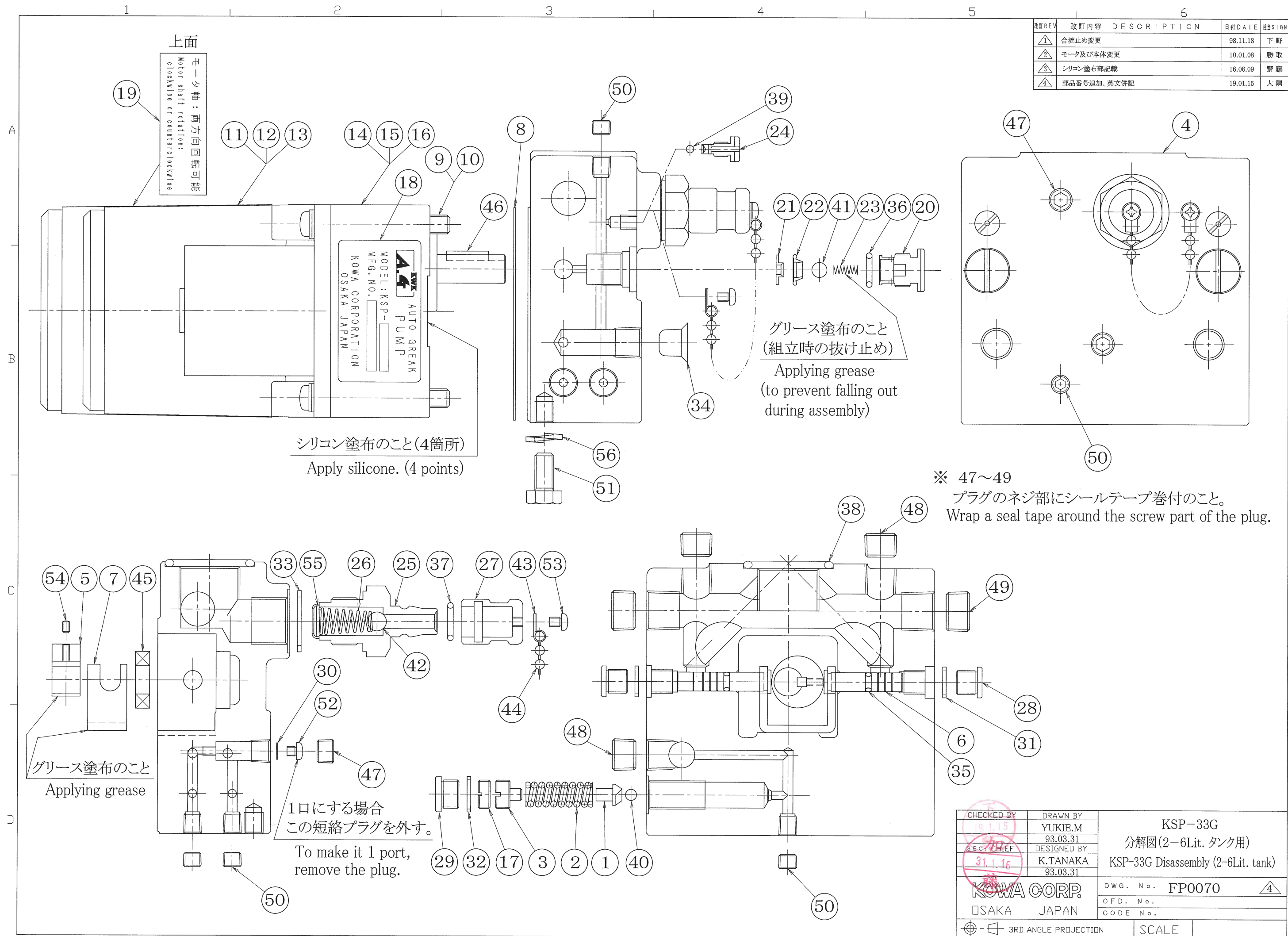
取付ネジ 3-M8×9L
MOUNTING SCREWS



VIEW A-A

CUSTOMER		SPECIFICATION	
CHECKED BY 15.4.02	DRAWN BY YUKIE, M	電動式給油ポンプ(スチールタンク ローレベルスイッチ付) MOTOR-DRIVEN LUBRICATING PUMP (WITH STEEL-TANK & LOW LEVEL SWITCH) KSP-33G□-□-6L-LS	
DESIGNED BY K. TANAKA	DESIGNED BY K. TANAKA		
DATE '93. 2. 28	DATE '93. 2. 28		
DWG. No. KS-803904		SCALE 1/2	
OSAKA JAPAN		3RD ANGLE PROJECTION	

改訂REV	改訂内容 DESCRIPTION	日付DATE	担当者SIGN
①	合流止め変更	98.11.18	下野
②	モータ及び本体変更	10.01.08	勝取
③	シリコン塗布部記載	16.06.09	齋藤
④	部品番号追加、英文併記	19.01.15	大隅



CHECKED BY 19.1.15	DRAWN BY YUKIE.M 93.03.31	KSP-33G 分解図(2-6Lit. タンク用) KSP-33G Disassembly (2-6Lit. tank)
SEC. CHIEF 31.1.16	DESIGNED BY K.TANAKA 93.03.31	
KOWA CORP. OSAKA JAPAN		DWG. No. FP0070 ④
		CFD. No.
		CODE No.
3RD ANGLE PROJECTION		SCALE

KSP-33G 分解図 用品リスト

KSP-33G Disassembly parts list

品番 No.	名称 part name	部品番号 part No.	数量 quantity	備考 remarks
1	スプリング受け Spring catch	A8001	1	KS-800243
2	コイルスプリング Coil spring	A8002	1	KS-800244
3	レリーフバルブ調整ネジ Relief valve adjustment screw	A8003	1	KS-800245
4	ポンプ本体 KSP-33 KSP-33 Pump body	D1001	1	KS-802941
5	偏心カム Eccentric cam	D1008	1	KS-802733
6	ピストン Piston	D1009	2	KS-803466 ϕ 8X33
7	ヨーク(KSP-33用) Yoke(KSP-33)	D1010	1	KS-802732
8	モータパッキン Motor packing	D1011	1	KS-803354
9	G.M取付ボルト 1/18 Mounting bolts	D1020	4	M6 $\times$ 60L
10	G.M取付ボルト 1/25 Mounting bolt	D1021	4	M6 $\times$ 75L
11	モーター100V 単相 Motor -100 V single phase	D1031	1	40W 単相 端子箱 with Terminal Box
12	モーター200V 3相 Motor - 200 V three phase	D1032	1	40W 3相 端子箱 with Terminal Box
13	モーター400V 3相 Motor - 400 V 3 phase	D1033	1	40W 3相 端子箱 with Terminal Box
14	減速機 Gear reducer	D1034	1	1/18
15	減速機 Gear reducer	D1035	1	1/25
16	減速機 Gear reducer	D1036	1	1/50
17	調整ネジ(ロック用) Adjustment screw(for lock)	G8007	1	KS-800478R1 M12
18	AGポンプ型式銘板 Pump model nameplate	V1005	1	KS-801015
19	モーター回転両方向銘板 Motor rotation Bidirectional	V2017	1	KS-800813
20	チェッキ本体 Check body	X1001	1	KS-801474
21	チェッキバックアップリング Check backup ring	X1002	2	KS-801475
22	シートパッキン Sheet packing	X1003	2	KS-800913
23	コイルスプリング Coil spring	X1004	2	KS-801477
24	エア抜きプラグ Air bleeding plug	X1005	2	KS-800124
25	補給口金具 Supply port fitting	X1101	1	KS-800116
26	スプリング Spring	X1102	1	KS-800118
27	補給口キャップ Supply port cap	X1103	1	KS-800514
28	座付きプラグ Washer based plug	X2006	2	M10X11L
29	座付きプラグ Washer based plug	X2007	3	M12X10L
30	銅パッキン Copper packing	X3002	1	ϕ 7X ϕ 4.5X0.5T
31	銅パッキン Copper packing	X3006	2	ϕ 13X ϕ 10.5X1.5T

32	銅パッキン(30型) Copper packing (30 type)	X3008	2	φ 15X φ 12.5X1.5T
33	銅パッキン(補給口) Copper packing (supply port)	X3013	1	φ 26X φ 20.5X1.5T
34	エンドキャップ(赤) Rc1/4 End cap (red) Rc1/4	X4002	1	KS-800867 RC1/4
35	Oリング O ring	Z1003	2	1A P5
36	Oリング O ring	Z1108	1	1B P11
37	Oリング O ring	Z1109	1	1B P12
38	Oリング O ring	Z1117	1	1B P32
39	鋼球 Steel ball	Z2001	2	1/8 (φ 3.175)
40	鋼球 Steel ball	Z2003	1	3/16 (φ 4.7625)
41	鋼球 Steel ball	Z2005	2	1/4 (φ 6.35)
42	鋼球 Steel ball	Z2006	1	5/16 (φ 7.9375)
43	チェーンコネクタ Chain connector	Z2202	1	φ 4 BBP-40K
44	ボールチェーン Ball chain	Z2204	1	φ 4x200L
45	ベアリング(KSP-33) Bearing (KSP-33)	Z3001	1	#6901
46	キー(両丸) Both Round Key	Z4407	1	4x4x18
47	沈みプラグ Sunk head plug	Z5001	2	R 1/8
48	沈みプラグ Sunk head plug	Z5002	4	R 1/4
49	沈みプラグ Sunk head plug	Z5003	2	R 3/8
50	六角穴付プラグ Hexagon socket head plug	HS-PG-NPT1/16U	4	NTP 1/16
51	六角ボルト Hexagon bolt		1	M8 × 16L
52	十字穴付ナベ小ネジ Round head Phillips screw		1	M4 × 5L
53	十字穴付ナベ小ネジ Round head Phillips screw		1	M4 × 8L
54	六角穴付止ネジ Hexagon socket set screw		1	M3 × 5L
55	平座金 Flat washer		1	M6
56	バネ座金 Spring washer		1	M8

1

2

3

4

5

6

改訂版	改定内容	DISCRIPTION	日付 DATE	担当者
△	アルミタンクに変更、図番変更AT2LG→SM-AT2LG		H22.3.11	加藤
△				
△				

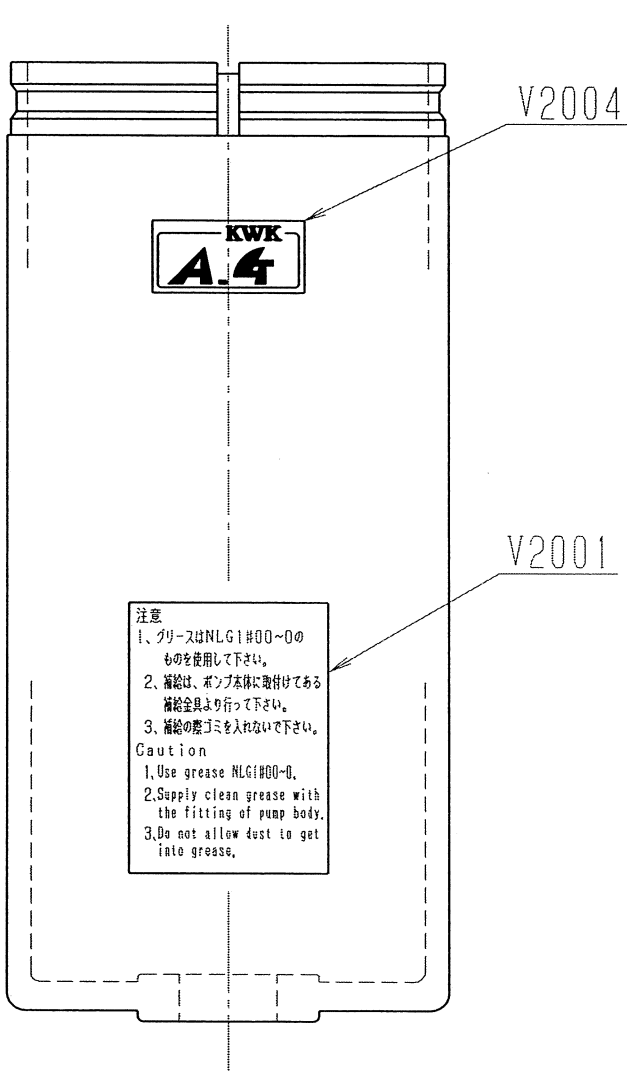
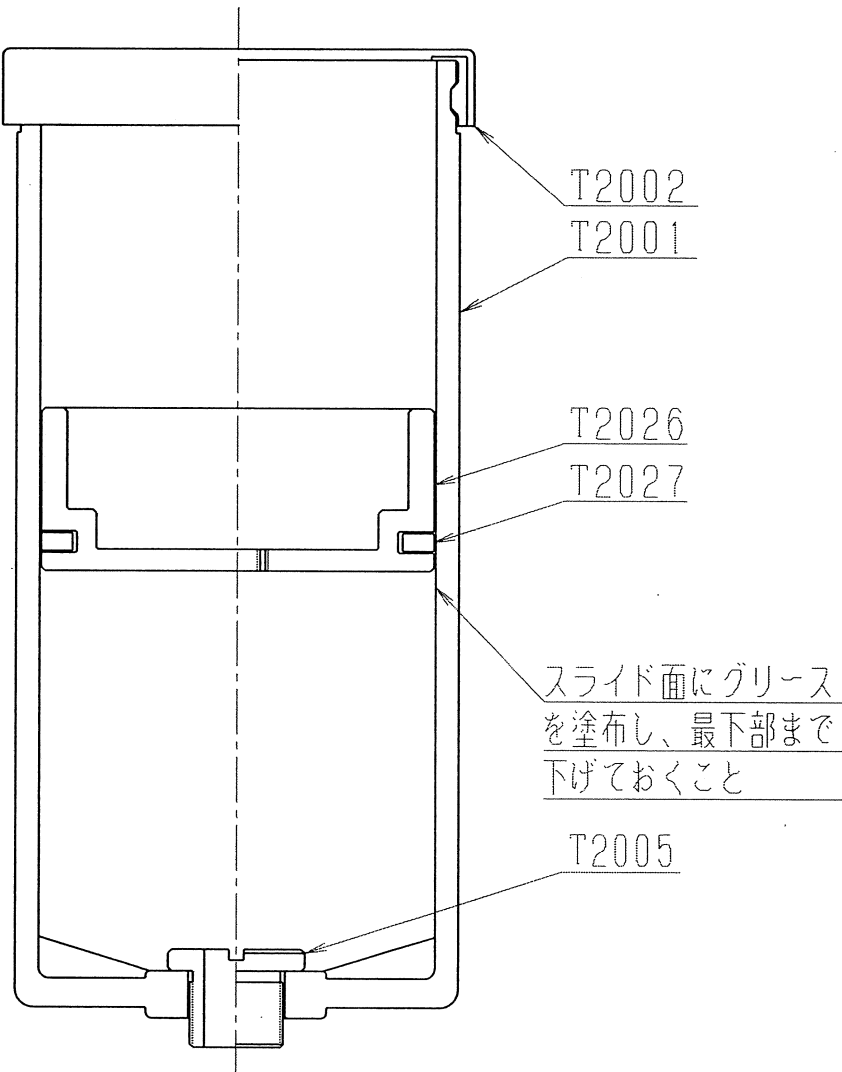
A

A

B

C

D



注意
1、グリースはNLGI#00~0の
ものを使用して下さい。
2、補給は、ポンプ本体に取付けてある
補給金具より行って下さい。
3、補給の際ゴミを入れないで下さい。
Caution
1、Use grease NLGI#00~0.
2、Supply clean grease with
the fitting of pump body.
3、Do not allow dust to get
into grease.

協議印

出図先

購買

製造

客先

控

複写部数

A3

出図日

CUSTOMER

SPECIFICATION

CHECKED BY
T.G. 3.11

加藤

2010.03.05

APPROVED BY
宮

加藤

2010.03.05

KOWA CORP.

OSAKA JAPAN

3RD ANGLE PROJECTION

2 リッター タンク
グリース用 分解図

DWG.No.
SA-AT2LG

CFD.No.

CODE No.

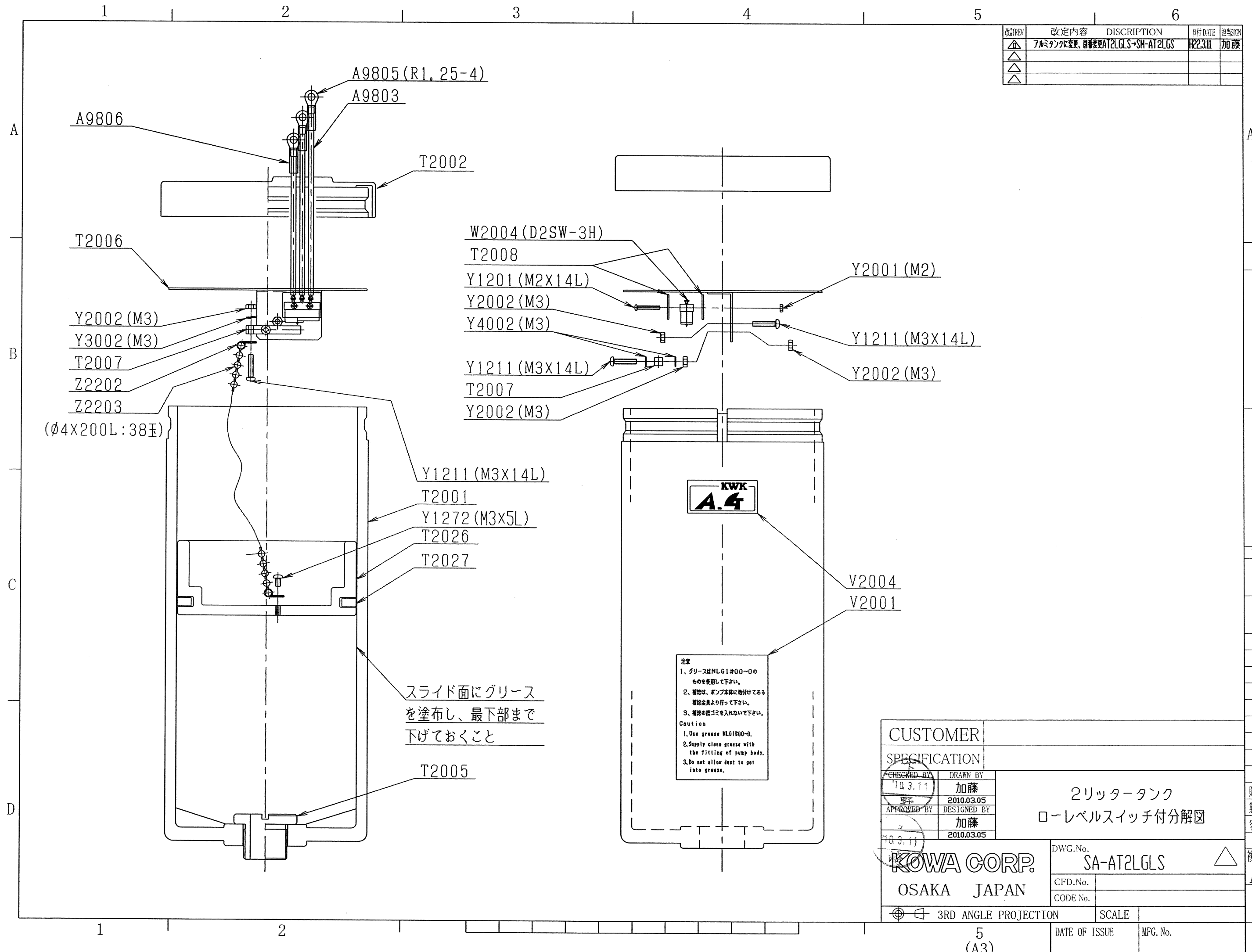
SCALE

DATE OF ISSUE

MFG. No.

5

(A3)



改訂REV	改定内容	DISCRIPTION	日付DATE	担当者
△	アルミタンクに変更、目録変更AT2LGLS→SM-AT2LGLS		H22.3.11	加藤
△				
△				
△				

協議印
出図先
購買
製造
客先
控
複写部数
A3
出図日

1

2

3

4

5

6

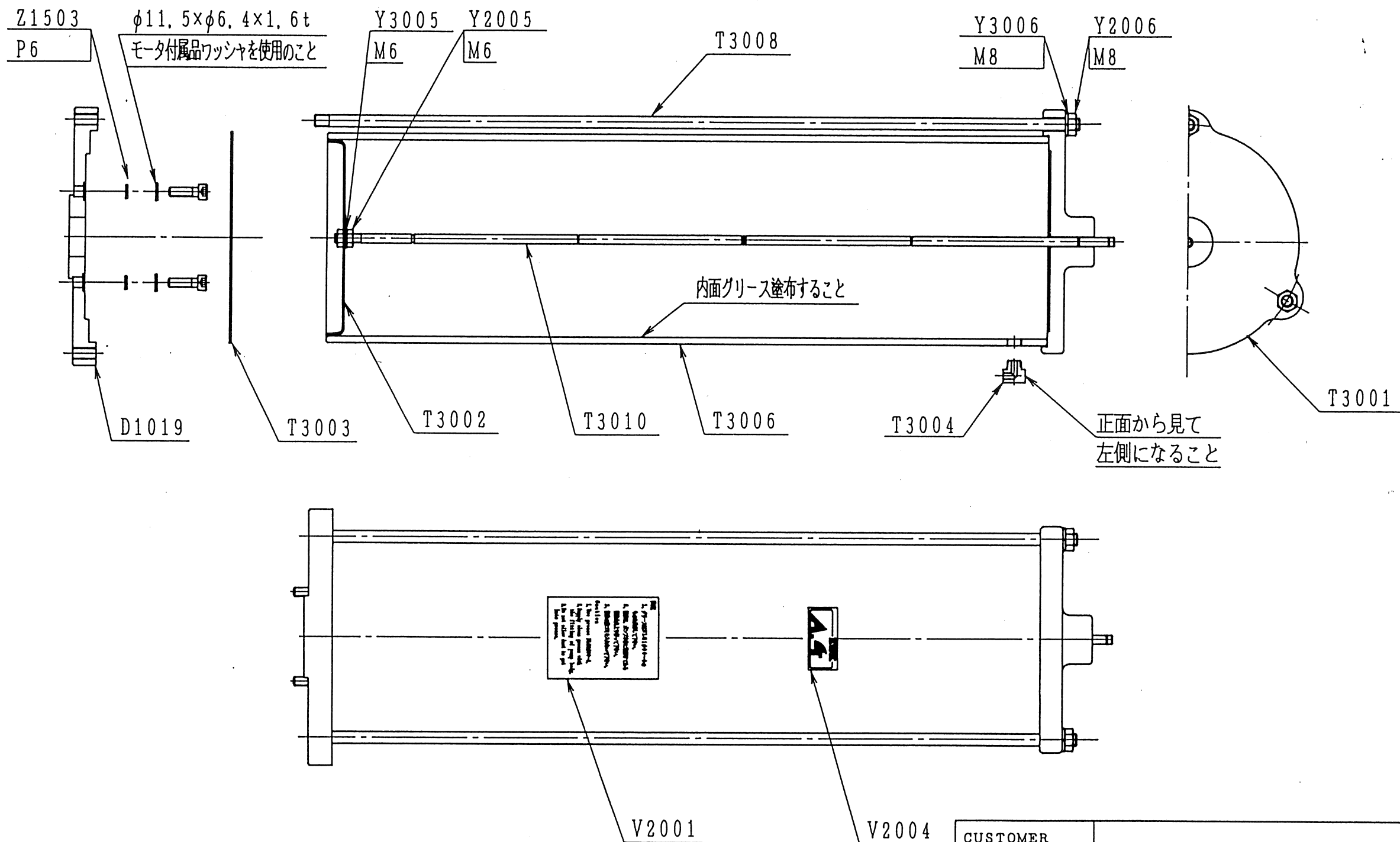
REV	改定内容	DESCRIPTION	DATE	BY
△				
△				
△				

A

B

C

D



CUSTOMER			
SPECIFICATION			
CHECKED BY	DRAWN BY	KSP-33用6ℓタンク	
K. TANAKA	A. F		
93.3.31			
SEC. CHIEF	DESIGNED BY		
KOWA CORP.		DWG. No. ST6L △	
OSAKA JAPAN		CFD. No.	
		CODE No.	
3RD ANGLE PROJECTION		SCALE	2/3

