

**KOWA CENTRALIZED LUBRICATION SYSTEM
MOTOR-DRIVEN GREASE FILLING PUMP**

MODEL : KGP-710

INSTRUCTION MANUAL

KWK KOWA CORPORATION

2019.1.16

Introduction

Thank you very much for purchasing the KOWA CENTRALIZED LUBRICATION SYSTEM.

This Instruction Manual has been compiled as a practical guide for the operation and maintenance of lubricating system which incorporates the model KGP-710 motor driven filling pump.

All descriptions contained here in are based on the standard system, which may, therefore, be different from those of the purchased system. Such a problem can be solved by referring to the final specifications. However, it is required to understand that some changes caused by the modification of equipment may not be described in the final specifications.

Guarantee

The guaranteed period for this system will be one year from the commencement of operation.

Any defect or failure occurring during the guaranteed period, for which KWK is liable in design and manufacturing, shall be corrected and / or eliminated by KWK without compensation.

However, any defect or failure caused by improper operation which is not described in this Instruction Manual shall not be guaranteed, even though the defect or failure occurs with the guaranteed period.

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1. Features

The motor-driven grease filling pump is used for supplying grease to the reservoir of the KOWA lubricating pump (or a manual grease pack may be used). The quick coupling permits easy and clean filling without contact with air or dust, and it is effective for enhancing the reliability of the lubricating system.

This motor-driven grease filling pump (grease pack) is used to supply grease from a 180 kg drum to the reservoir of lubricating pump.

2. Handling procedure

Insert the quick coupling provided at the end of rubber hose into the grease refill port (coupler plug) of the lubricating pump to be replenished. Follow the procedure below.

- ① Set a filling pump on 180 kg drum.
- ② Pull out the cap with ball chain which is inserted in the refill port (coupling plug with check valve) of the lubricating pump. (Since O-ring is fitted for preventing from slipping off, pull out the cap while turning to the left.)
- ③ Insert the slide ring of the quick coupling attached to the end of rubber hose of filling pump into the coupler plug while moving (pulling back fully into the rubber hose direction).
- ④ Release the force on the slide ring, then the slide ring restores the original state by the spring action, and the linkage of quick coupling and coupler plug is complete.
(To check if the linkage is complete, pull the hose lightly. If it is detached, repeat steps 3 and 4.)
- ⑤ Connect the power source to the geared motor of this filling pump mounted on a 180 kg drum.
- ⑥ The motor may be rotated either clockwise or counterclockwise.
- ⑦ Since the follower rod of the reservoir for lubricating pump rises as the grease is being supplied, stop operation when reaching a specified level.
- ⑧ Pull back the slide ring of the quick coupling fully, and detach the hose from the refill port. Connect the quick coupling to the return port of the drum cover according to

steps 3 and 4. Then the compressed grease in the hose returns to the drum.

⑨ Put the cap on the refill port.

This ends the filling operation.

3. Structure and specification

3-1. Structure

This pump is designed to suck and discharge the grease by the combination of the check valve and the piston reciprocating in the cylinder, by converting the motor rotation reduced by the reduction gear into reciprocal motions by means of the eccentric cam.

3-2. Specification

Model	: KGP-710
Discharge	: 663/800 cc/min (50/60Hz)
Motor	: Geared motor Reduction ratio : 1/21 Three-phase induction motor (totally enclosed, fan-cooled type) AC200/220V, (AC400/440V) 50/60Hz, 0.4kW, 4P
Pump speed	: 69/83 r.p.m (50/60Hz)
Mass	: 61kg (Without drum)
Pressure	: Max. 5MPa
Applicable grease	: NLGI #00~#1

4. Cautions for maintenance, handling

- ① Before starting operation, check the remainder of grease in the drum can.

Empty operation without grease may lead to trouble or accident.

- ② Do not put the pump suction unit directly on the ground; otherwise dust or sand may be sucked in to cause trouble. Put it, therefore, on a sheet of paper or cloth.

- ③ Use grease for centralized lubrication in the grade ranging from NLGI #00 to #1.

Satisfactory suction or discharge may not be obtained with grease of low consistency (#2 or more).

- ④ When a specified volume of grease is charged in the reservoir of the lubricating pump, stop filling by the filling pump immediately. If continued, the grease may overflow the reservoir.

- ⑤ The relief valve (the safety valve) is set at 5MPa at the time of shipping, which should not be changed unless necessary.

Otherwise sufficient charging into the pump may be disabled or the motor may be overloaded.

- ⑥ Lubricating grease in geared motor and main body casing.

Change or replenishment of grease is rarely necessary. For longer service life, however, it is recommended to change every 20,000 hours.

- ⑦ Since the check valve is built in the quick coupling, trouble may be caused if the filling pump is operated for long time without connecting to the pump refill port or drum cover return port.

5. Trouble shooting

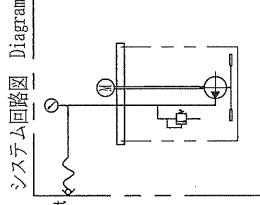
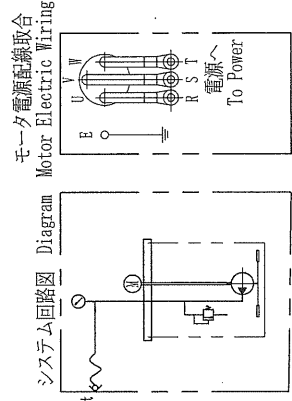
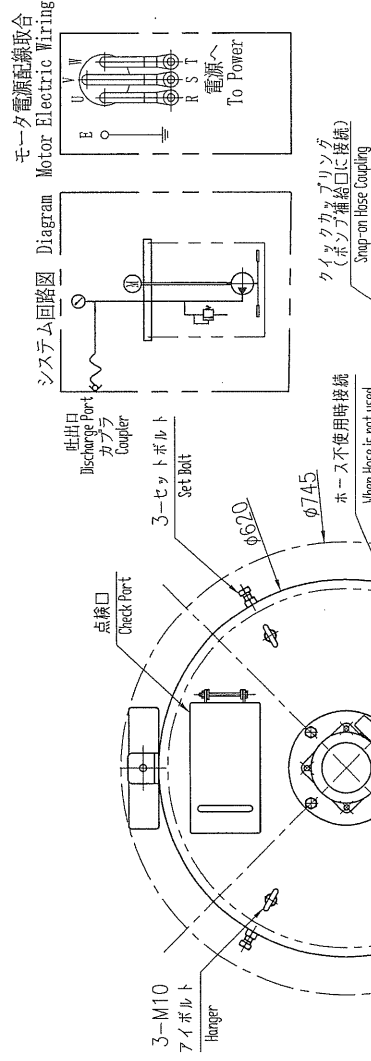
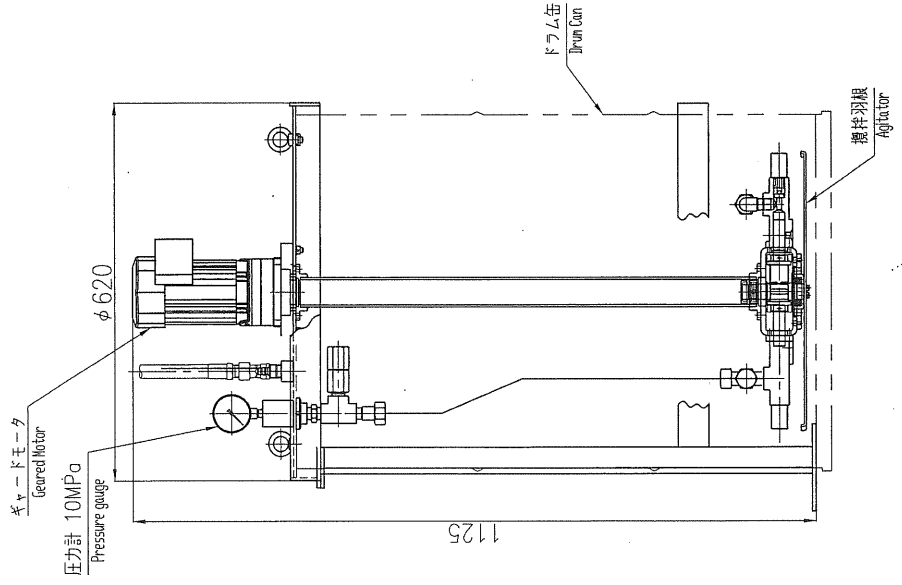
Trouble	Situation	Cause	Remedy
Grease is not charged into lubricating pump.	Motor of filling pump is running.	①No grease is drum. ②Foreign matter in suction or discharge check valve. ③Foreign matter in hose or damage of hose. ④The pump body (cylinder or plunger) is broken. ⑤All of grease is released from relief valve. ⑥Grease of low consistency (NLGI #2 or more) is used.	①Replace with fresh drum. ②Clean. ③Clean or replace. ④Repair or replace. ⑤Overhaul, and tighten adjusting screw to release at 5MPa. ⑥Change with specified grease (NLGI #00 to #1).
	Motor of filling pump is not running.	①Power is not connected. ②Wire is disconnected.	①Connect. ②Check and repair.
Grease charge into lubricating pump is not smooth.	Operating sound of filling pump is high-pitched or unusual noise is heard.	①Sliding parts are worn. ②Agitator touches a drum.	①Replace main body. ②Check and repair.
	Part or all of grease is released from relief valve.	①Follower plate of reservoir for lubricating pump does not operate smoothly. ②Connection of quick coupler is not accurate.	①Overhaul, and repair the follower plate of reservoir. ②Connect again.

仕 様

型 式	KGP-710-□
吐出量 $\frac{\text{cm}^3}{\text{min}}$ 50/60Hz	663/800
減 速 比	1/21
ボ 電 動 機 kW	0.4
部 2: AC200V50Hz AC220V60Hz 三相 3: AC400V50Hz AC440V60Hz 三相	
□	
吐出圧力	Max. 5MPa
ポンプ方式	プランジヤ方式
使用グリース	200Lit. ドラム缶 NLGI No. 1以下
塗 装 色	2. 5G6/2
質 量	61kg (ドラム缶不含)

SPECIFICATION

Model	KGP-710-□
Discharge capacity $\frac{\text{cm}^3}{\text{min}}$ 50/60Hz	663/800
Reduction ratio	1/21
Pump revolution	0.4
2: AC200V50Hz AC220V60Hz $\phi 3$ 4: AC400V50Hz AC440V60Hz $\phi 3$	
□	
Discharge pressure	Max. 5MPa
Pump Type	Plunger Type
Useable Grease	200Lit. Drum Can NLGI No. 0 or 1
Color of Painting	2. 5G6/2
Weight	61kg (Without Drum Can)



CUSTOMER

SPECIFICATION

電動式充電ポンプ
BARREL PUMP
(Motor-Driven Type)
KGP-710-□KOWA CORP.
OSAKA JAPANDWG. No.
KGP-710CFD No.
CODE No.

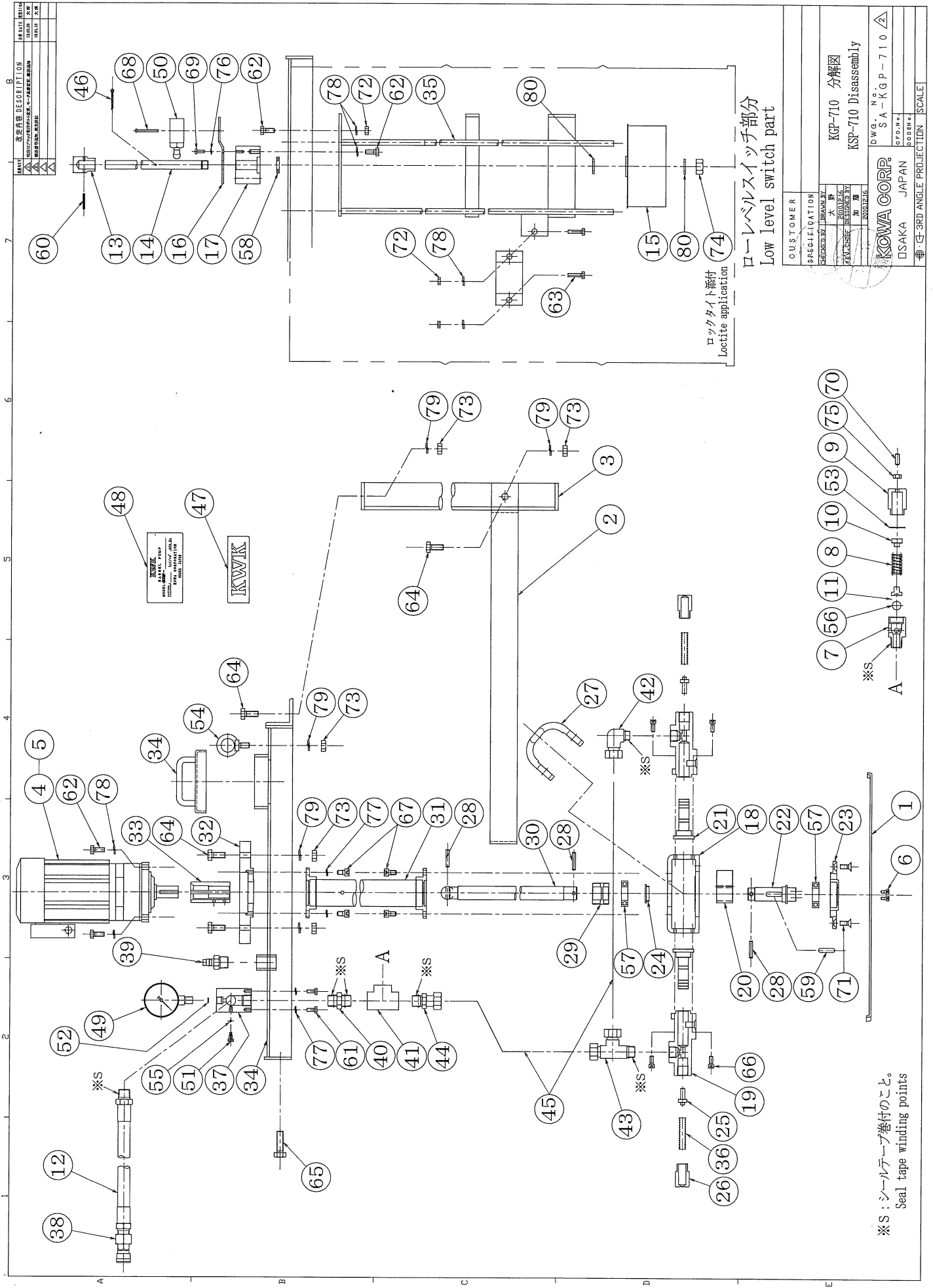
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加藤 大野

SCALE

DATE OF ISSUE

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KGP-710 分解図 用品リスト

KSP-710 Disassembly parts list

品番 No.	名称 part name	部品番号 part No.	数量 quantity	備考 remarks
1	KSPN1000 攪拌羽根 KSPN1000 Stirring blade	E1313	1	SC-N1000-VANE
2	ドラムサポート-1 Drum support 1	E1339	1	SC-N1000T-DR-SUPPORT-1
3	ドラムサポート-2 Drum support 2	E1340	3	SC-N1000T-DR-SUPPORT-2
4	ギヤモートル 0.4KW Geared motor 0.4kW	E1401	1	Gear raito 1/21 AC200V/220V CCW
5	ギヤモートル 0.4KW Geared motor 0.4kW	E1409	1	Gear raito 1/21 AC400V/440V CCW
6	羽根取付ボルト Blade mounting bolt	E7012	2	KS-822019 M5X10L
7	リリーフバルブ本体 Relief valve body	F7016	1	KS-800671
8	リリーフバルブスプリング Relief valve spring	F7017	1	KS-800673
9	スプリングケース Spring case	F7018	1	KS-801718
10	スプリング押え Spring retainer	F7019	1	KS-801717
11	バルブ押え Valve retainer	F7020	1	KS-801716
12	ゴムホース PA0708X2000L Rubber hose	F7031	1	R+F+8001RG
13	スイッチカム Switch cam	F7034	1	KS-800986
14	フォロワーロッド Follower rod	F7036	1	KS-801009 ϕ 16X890L
15	フロート Float	F7037	1	ϕ 150X70
16	ローレベルSWブラケット Low level switch bracket	F7040	1	KS-801006
17	フランジ Flange	F7041	1	KS-801007
18	KGP-710 ポンプ本体 KGP-710 Pump body	F7200	1	SM-710-BODY
19	KGP-710 シリンダ KGP-710 Cylinder	F7201	2	SM-710-CYLINDER
20	KGP-710 カム KGP-710 Cam	F7202	1	SM-710-CAM
21	KGP-710 ピストン KGP-710 Piston	F7203	2	SM-710-PISTON
22	KGP-710 シャフト KGP-710 Shaft	F7204	1	SM-710-SHAFT
23	KGP下部ベアリングカバー KGP lower bearing cover	F7206	1	SM-710-COVER2
24	KGP-710 スパース KGP-710 Spacer	F7207	1	SM-710-SPACER
25	KGP-710 チェッキピストン KGP-710 Check piston	F7208	2	SM-710-CHECKPISTON
26	KGP-710 チェッキカバー KGP-710 Check cover	F7209	2	SM-710-CHECK
27	KGP-710 プランジャガイド KGP-710 Plunger guide	F7210	1	SM-710-PGUIDE
28	KGP-710 平行ピン KGP-710 Parallel pin	F7211	3	SM-710-PIN B-6X32L
29	KGP-710 カップリング KGP-710 Coupling	F7212	1	SM-710-COUPLING
30	KGP-710 駆動軸 KGP-710 Drive shaft	F7213	1	SM-710-DR-SHAFT
31	KGP-710 サポートパイプ KGP-710 Support pipe	F7214	1	SM-710-SUPPORT-PIPE

32	KGP-710 モーターフランジ KGP-710 Motor flange	F7215	1	SM-710-M-FLANGE
33	KGP-710 モーターカップリング KGP-710 Motor coupling	F7216	1	SM-710-M-COUPRING
34	KGP-710 ドラムカバー KGP-710 Drum cover	F7217	1	SC-KGP710-DRUM-COVER
35	KGP-710 LLSフロートガイド KGP-710 LLS Float guide	F7218	1	SM-710-LLS-GUIDE
36	KGP-710 チェッキバネ KGP-710 Checking spring	F7219	2	SM-710-CHECKSPRING
37	KGP-710 取出しブロック KGP-710 Block	F7220	1	SM-710-BLOCK
38	ハイカプラー High Coupler	F8001	1	CAL-24SF (メス1/2)
39	ハイカプラー High Coupler	F8002	1	CAL-24PM (オス1/2)
40	高圧ニッブル High pressure nipple	HNI-1/2U	1	1/2
41	高圧チーズ High pressure tee	HT-1/2	1	1/2
42	OSTエルボ OST Elbow	OSTF-E-15×1/2	1	φ15xR1/2
43	OST片オスティー OST One male tee	OSTF-FC-15×1/2	1	φ15x1/2
44	OST継手φ15X1/2 OST connector φ15x1/2	OSTF-S-15×1/2	1	φ15xR1/2
45	鋼管 OST-2 φ15X1.5T Steel pipe	OSTP-15×1.5	0.5	φ15x1.5TX4M
46	割りピン Split pin	SP-3×30L	1	3×30L
47	銘板 KWK (大) Nameplate KWK (Large)	V1009	1	KS-802285 50X123.8X40
48	主銘板 KEPシリーズ Main plate name KEP series	V1010	1	KS-802854 0.3TX130X65
49	圧力計10MPa Pressure gauge 10 Mpa	W1004	1	AT1/4X φ60X10MPA
50	リミットスイッチ ZE-Q21-2 Limit switch ZE-Q21-2	W2001	1	ZE-Q21-2 (OMRON)
51	エア抜きプラグ Air bleeding plug	X1005	1	KS-800124
52	銅パッキン(圧力計) Copper packing (pressure gauge)	X3004	1	φ9X φ5.5X1.5T
53	銅パッキン(タンク.60) Copper packing (tank .60)	X3014	1	φ30X φ26.5X1T
54	アイボルト Eyebolt	Y6002	3	M10X20L
55	鋼球 Steel ball	Z2001	1	1/8 (φ3.175)
56	鋼球 Steel ball	Z2007	1	5/8 (φ15.875)
57	ベアリング #6005 Bearing #6005	Z3022	2	KSP-N1000
58	オイルシール Oil seal	Z3107	1	AG0686A0 (8Lタンク.700LS)
59	両丸キー Both Round Key	Z4410	1	8x7x28 (両丸)
60	スプリングピン Spring pin		1	φ3×28L
61	六角ボルト Hexagon bolt		2	M6×15L
62	六角ボルト Hexagon bolt		6	M8×20L
63	六角ボルト Hexagon bolt		2	M8×26L
64	六角ボルト Hexagon bolt		4	M10×25L
65	六角ボルト Hexagon bolt		3	M12×40L

66	六角穴付ボルト Hexagon socket head bolt		6	M6 × 16L
67	六角穴付ボルト Hexagon socket head bolt		4	M8 × 14
68	十字穴付ナベネジ Round head Phillips screw		1	M4 × 40L
69	十字穴付ナベ小ネジ Round head Phillips screw		1	M5 × 14L
70	六角穴付止ネジ Hexagon socket set screw		1	M8 × 20L
71	十字穴付皿小ネジ Cross recessed countersunk machine screw		2	M8 × 20L
72	六角ナット Hexagon nut		3	M8
73	六角ナット Hexagon nut		5	M10
74	六角ナット Hexagon nut		1	M16
75	六角ナット Hexagon nut		1	M8(3種)
76	バネ座金 Spring washer		1	M5
77	バネ座金 Spring washer		2	M6
78	バネ座金 Spring washer		8	M8
79	バネ座金 Spring washer		5	M10
80	平座金 Flat washer		2	M16