

INSTRUCTION MANUAL

PORTABLE DOUBLE ACTION HYDRAULIC PUMP

READ ALL INSTRUCTIONS BEFORE OPERATING THIS MACHINE TOOL

PUMP Models HPD-05 115V/230V PROFESSIONAL TOOL



Specifications

Model		HPD-05 115V/230V	
Output	At No Load	50Hz	1.20 ℓ /min
		60Hz	1.44 ℓ /min
	At 68.65MPa	50Hz	0.55 ℓ /min
		60Hz	0.66 ℓ /min
Motor		0.4 kW 4P	
Power Source		AC115V/230V Single Phase	
Reservoir Capacity		4.0 ℓ	
Discharge Port, Return Port		Rc3/8	
Solenoid Valve		4 Way 3 Position Valve	
Mass(Weight)		32.5 kg	
Max. Output Pressure		68.65 MPa(700 kgf/cm ²)	

The specifications and design may be changed for improvement without prior notice.



Manufactured by :

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Keep the manual handy – so you can use it whenever necessary.

Thank you for purchasing **Nitto Kohki product.**

Before using this tool, please read this manual carefully to ensure proper, efficient operation.

This instruction manual should be kept close at hand.

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PICTOGRAM



Warning: It might be dangerous to operate the power tool if the instructions supplied are not followed.



Before operating the tool, read and understand all instructions supplied. Keep it for future reference.



Personal protective equipment as eye and ear protection and protective gloves must always be used when operating the tool.

WARNING

IMPORTANT SAFETY INSTRUCTIONS FOR ALL ELECTRIC TOOLS

When using electric tools, basic safety precautions should always be followed to reduce risk of fire, electric shock, personal injury and the like, including the following.

(1) Keep work area clean.

- Cluttered work areas and benches invite accidents and injuries.

(2) Consider work area environment.

- Do not expose tools to rain. Do not use tools in damp or wet locations.
- Keep work area well lit.
- Do not operate near flammable liquids or in gaseous or explosive atmospheres.

(3) Be cautious about electric shock.

- When using electric tools, do not touch any which is earthed. (Ex. Pipe, heating apparatus, microwave oven, outside frame of refrigerator)

(4) Keep children away.

- Also all visitors should be kept away from work area.
- Do not let visitors contact the tool, compressor or connecting hoses.

(5) Store idle tools.

- When not in use, tools should be stored in dry, and locked-up places out of reach of children.

(6) Do not force tool.

- It will do the job better and safer at the rate which it was designed.

(7) Use right tool.

- Do not force a small tool or attachment to do the job of a heavy-duty tool.
- Do not use tool for a purpose not intended.

(8) Dress properly.

- Do not wear loose clothing or accessories. They can be caught in moving parts.
- Non-skid footwear is recommended.
- Wear protective hair covering to contain long hair.

(9) Always wear eye protection.

- Everyday eyeglasses only have impact resistant lenses. They do not protect eyes. Also use face or dust mask, if operations create dust.

(10) Do not abuse cable.

- Never carry tool by connecting cable or yank on hose to disconnect.
- Do not place a cable near a place with high heat, oil, and sharp edge.

(11) Secure work.

- Use clamps or a vise to hold workpieces when practical. It is safer than using your hand and it frees both hands to operate tool.

(12) Do not overreach.

- Keep proper footing and balance at all times.

(13) Cautious maintenance is necessary for electric tools.

- Always maintain blades and keep it work well so that safe and efficient work can be done.
- Follow the instruction manual for oiling or change of accessories.
- Check the cable regularly. Contact the sales agents to repair it when it is defective.
- When an extension cable is used, check regularly and change it when it is damaged.
- The grip should be kept dry and clean. Maintain it so well that it does not carry oil or grease.

(14) Switch off and take off the plug for the following:

- Not in use.
- When you change blades, grinding stone and bit.
- Any danger is anticipated.

(15) Remove spanners, wrenches etc., after adjustment.

- Make sure that spanners, wrenches etc., which are used for adjustment are removed before switching on.

(16) Always avoid unexpected start.

- Do not carry the tool with a finger on the switch when the power supply is on.
- Make sure that the switch is off before plugging in.

(17) Use a cabtyre cable or a cabtyre extension cable when it is used outside.

(18) Stay alert.

- Watch what you are doing.
- Bear in mind the way of handling/operation and the circumstances of the surrounding area.
- Use common sense.
- Do not operate tool when you are tired.

(19) Check damaged parts.

- Before further use of the tool, an accessory or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended functions.
- Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation.
- An accessory or other part that is damaged or inoperable should be properly repaired or replaced. When a switch becomes out of order, repairs should be performed only by the sales agent from whom you purchased the tool or an authorized dealer.
- Do not use electric tools which cannot be activated or stopped with a switch.

(20) Use recommended accessories.

- Consult this manual or the sales agent from whom you purchased the tool or an authorized dealer for recommended accessories. The use of improper accessories may cause risk of injury to persons.

(21) Repairs by authorized personnel.

- This tool should not be modified as it meets safety requirements.
- Any repairs to the tool or installation of replacement parts should be performed only by the sales agent from whom you purchased the tool or an authorized dealer.
- Failure to utilize the expertise of the sales agent from whom you purchased the tool or an authorized dealer or, failure to use genuine replacement parts, may result in an increased risk of injury to the user and may invalidate your warranty.

WARNING

IMPORTANT SAFETY INSTRUCTIONS FOR PORTABLE DOUBLE ACTION HYDRAULIC PUMP

- **Use of power is limited to the power source specified by the rating plate.**
- **Check the earth leakage breaker.**
Prior to use, check whether the power source is provided with earth leakage breakers to prevent electric shocks as prescribed in industrial safety and health regulations and electrical installations technical standards.
- **The earth lead must not be connected to a gas pipe. This may cause an explosion.**
- **Make sure the Earth Clip and earth lead are not faulty.**
If you have a tester or insulation resistance meter, check for continuity between the Earth Clip and the metal part of the body. Burying an earth rod or earth plate in the ground and connecting the earth lead is a job for a qualified electrician so you should consult a nearby electrical contractor.
- **Do not modify the power plug.**
If the power plug does not suit the power outlet, have a qualified electrician install a suitable outlet. Never modify the power plug which is connected to the tool. Mistaking the earth lead to electrocution. With or without yellow stripes, a lead with green insulation is an earth lead.
If the cord or power plug is replaced, do not connect the earth lead to a terminal which is carrying an electric current.
If you do not understand this explanation, or if you do not know whether your tool is properly earthed, please consult a qualified electrician.
- **Extension cord should be selected after ensuring the diameter is compatible with the length of the extension.**
Beware of extremely long power cord (particularly wound up thin cords) as they may cause drops in voltage which weaken the magnetism, adversely affecting the performance and function of the tool. Do not share the extension cord with any other electric machine tools.

· 115V

Extension Cable	
Max. Length	Nominal cross-sectional areas
10 m	2.0mm ² or more
20 m	3.5mm ² or more
35 m	5.5mm ² or more
50 m	8.0mm ² or more

· 230V

Extension Cable	
Max. Length	Nominal cross-sectional areas
20 m	2.0mm ² or more
40 m	3.5mm ² or more
50 m	5.5mm ² or more

· **Do not leave the tool while it is operating.**

If you leave the workplace, switch off the tool and remove the power plug from the supply. Do not leave the area until the tool comes to a complete stop.

· **Do not remove any labels or name plates from the tool.**

If a label or name plate has been damaged or is missing, contact the sales agent from whom you purchased the tool or an authorized dealer to obtain a replacement.

· **The maximum Output pressure.**

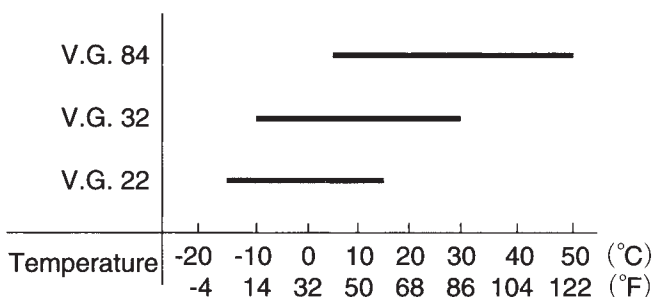
The maximum usage pressure of the Pump is 68.65MPa (700kgf/cm²). Use the actuator, the allowable maximum pressure of which is 68.65MPa (700kgf/cm²) or more.

· **Temperature control**

After continuous use for an extended period, the unit will become hot and the oil in the Pump will also be heated. The oil temperature should not be allowed to exceed 70°C(158°F) .

· **Replacement of Hydraulic Oil by Ambient Temperature.**

In the case that the standard hydraulic oil, V.G.(viscosity index) 32, cannot work properly due to the ambient temperature, replace with the suitable hydraulic oil in accordance with the table below.



1 USAGE

The Pump is the hydraulic power supply device generated by our own double action hydraulic actuator. The suitable actuator is SELFER ACE series.

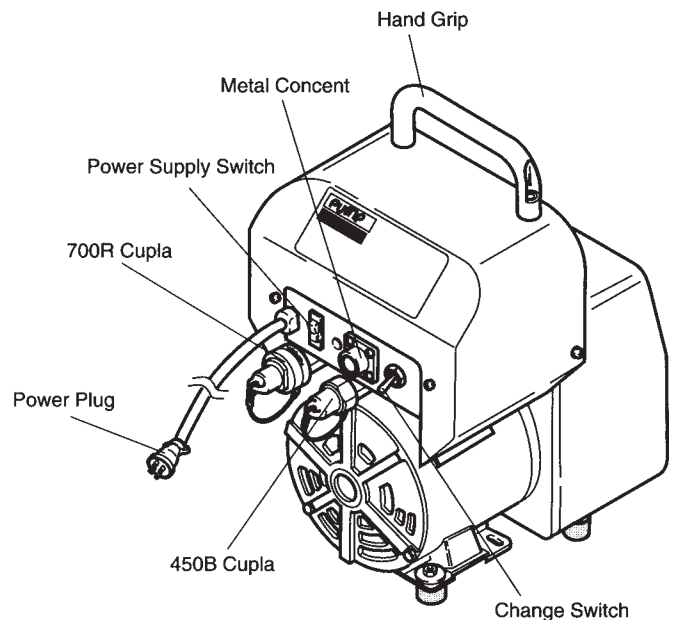
2 CHECK THE CONTENTS OF THE PACKAGE

Check the contents and make sure that the tool does not have any damage due to an accident during the transportation, if any. The contents should correspond to the list as follows. Just in case there are some damages or missing parts, contact the sales agent from whom you purchased the tool or an authorized dealer.

HPD-05

Package Contents and accessories	Q'ty	check
Unit	1set	
Oil Cap	1	
Hand Grip	1	
Hex. Socket Head Cap Screw 6X20	2	
Hex. Socket Screw Key 8	1	
Hex. Socket Screw Key 5	1	
Instruction Manual	1	

3 NAME OF PARTS



(Fig.1)

4 PREPARATION

4-1 ATTACHING ACCESSORIES

(1) Fix the Hand Grip (TQ03239).

(2) Disconnect the plug Rc3/8 from the Pump oiling port, and replace the Oil Cap with the new one supplied as an accessory.

Negligence of this procedure will cause abnormal heat, noise and other accidents, and the specified performance will not be obtained. (Fig. 2)

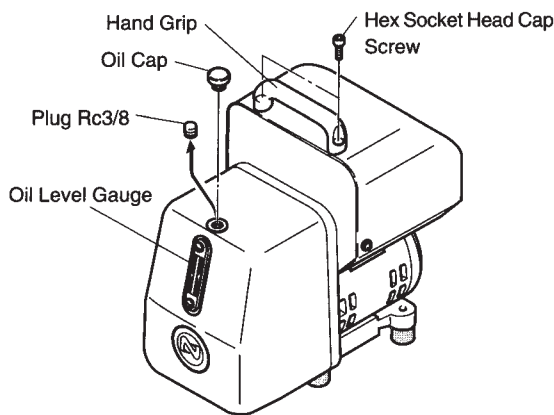
The plug Rc3/8 should be set to the original position during transportation.

4-2 INSTALLATION

Install the Pump in a well-ventilated level position, with low humidity and little dust.

4-3 CHECK THE OIL LEVEL

Check that the oil level is above the center on the Oil Level Gauge. If there is insufficient oil, top up to the "H" level with the Oil: ISO V.G. 32 (equivalent to #90 turbine oil)



(Fig.2)

4-4 HOSE CONNECTIONS

(1) Connect the hoses between the Selfer Ace and the Pump. The 700R Cupla is used on the discharge side (high pressure) and the 450B Cupla goes to the return side (low pressure). Make the connections as follows. (Fig. 3)

To Prevent Malfunction

- Before connecting the Cuplas, ensure they are well cleaned and free of dust and foreign matter.
- When disconnecting always fit the supplied dust caps.

【 700R 】

◎ Connection :Align the two — — marks of both sleeves of Cupla, force inwards and once fully depressed rotate Cupla sleeve 90 degrees. This will fully

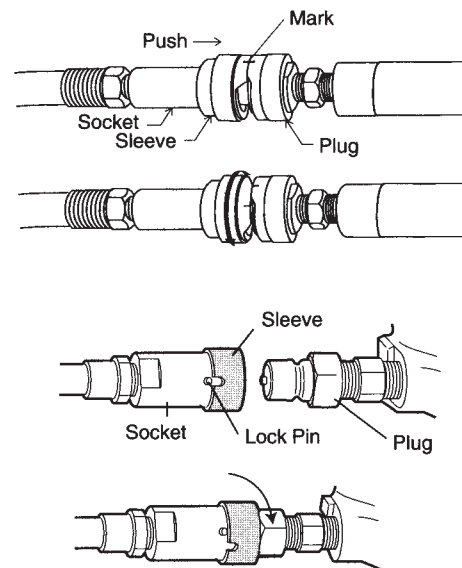
lock the Cupla in position.

◎ Disconnection :To disconnect re-align the two — — marks on the Cupla sleeves and the Cupla will disconnect.

【 450B 】

◎ Connection :Align the slot on socket sleeve with the lock pins, draw back the sleeve and push over the plug. Release the sleeve and then rotate the sleeve 90 degrees.

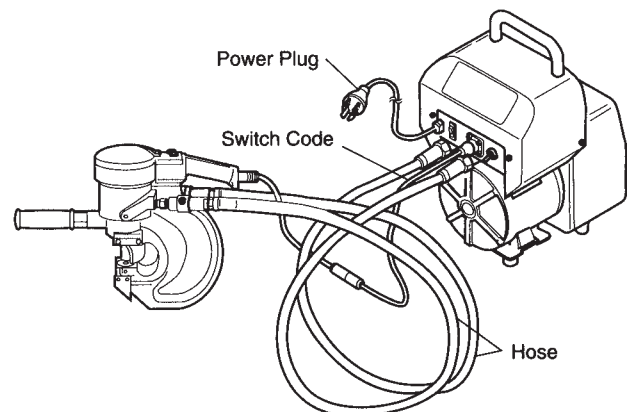
◎ Disconnection :To disconnect rotate the sleeve until slot and pins are aligned then simply pull back sleeve.



(Fig.3)

(2) Connect the Switch Cord to the Selfer Ace and Pump. (Fig. 4)

(3) Connect the Power Plug which is coming from the Pump to the power source. (Fig. 4)



(Fig. 4)

5 HOW TO OPERATE THE TOOL

⚠ WARNING

- **Don't pressurize the Pump independently.**
If the Pump is by itself, or the hoses are not connected to the Selfer Ace, the Pump must not be started. Otherwise the valves may be forced out of the Cuplas.

START AND STOP

The Pump is capable of inching and autoreturn operations. Use the switch on SELFER ACE to start and stop these operations. Refer to the instruction manual of SELFER ACE for details.

6 MAINTENANCE AND INSPECTION

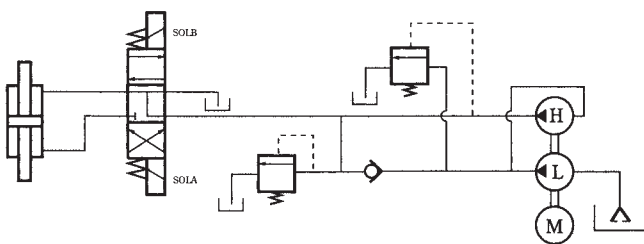
⚠ WARNING

- **The Power Plug must be removed from the power supply during maintenance and inspection.**
- **All attached parts should be checked periodically for loose screws, etc. Any loose screws should be tightened securely.**

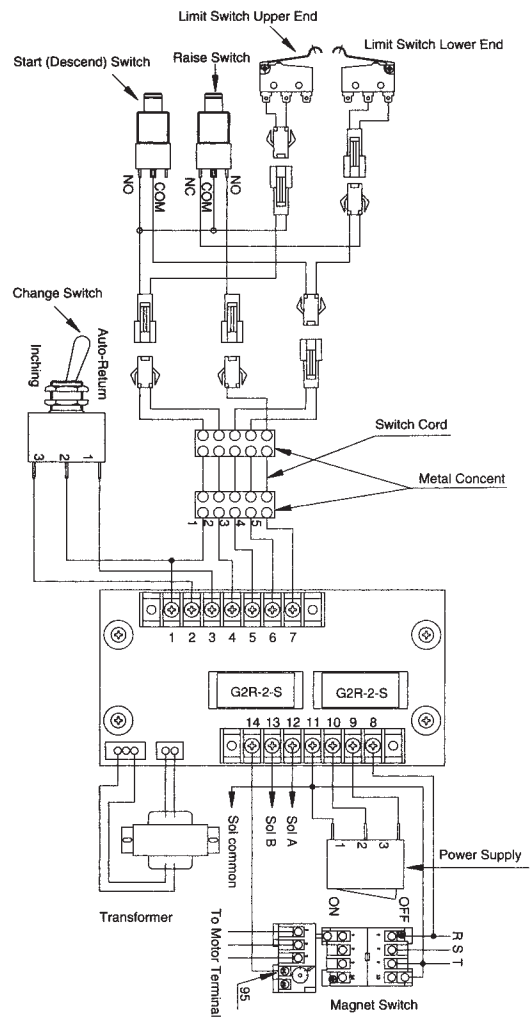
6-1 OIL CHANGE

Initial oil replacement should be done after operation for fifty hours. Subsequent replacement should be made at intervals of five hundred hours.

6-2 WIRING DIAGRAM AND OIL CIRCUIT DIAGRAM



(Fig.5)



(Fig.5)

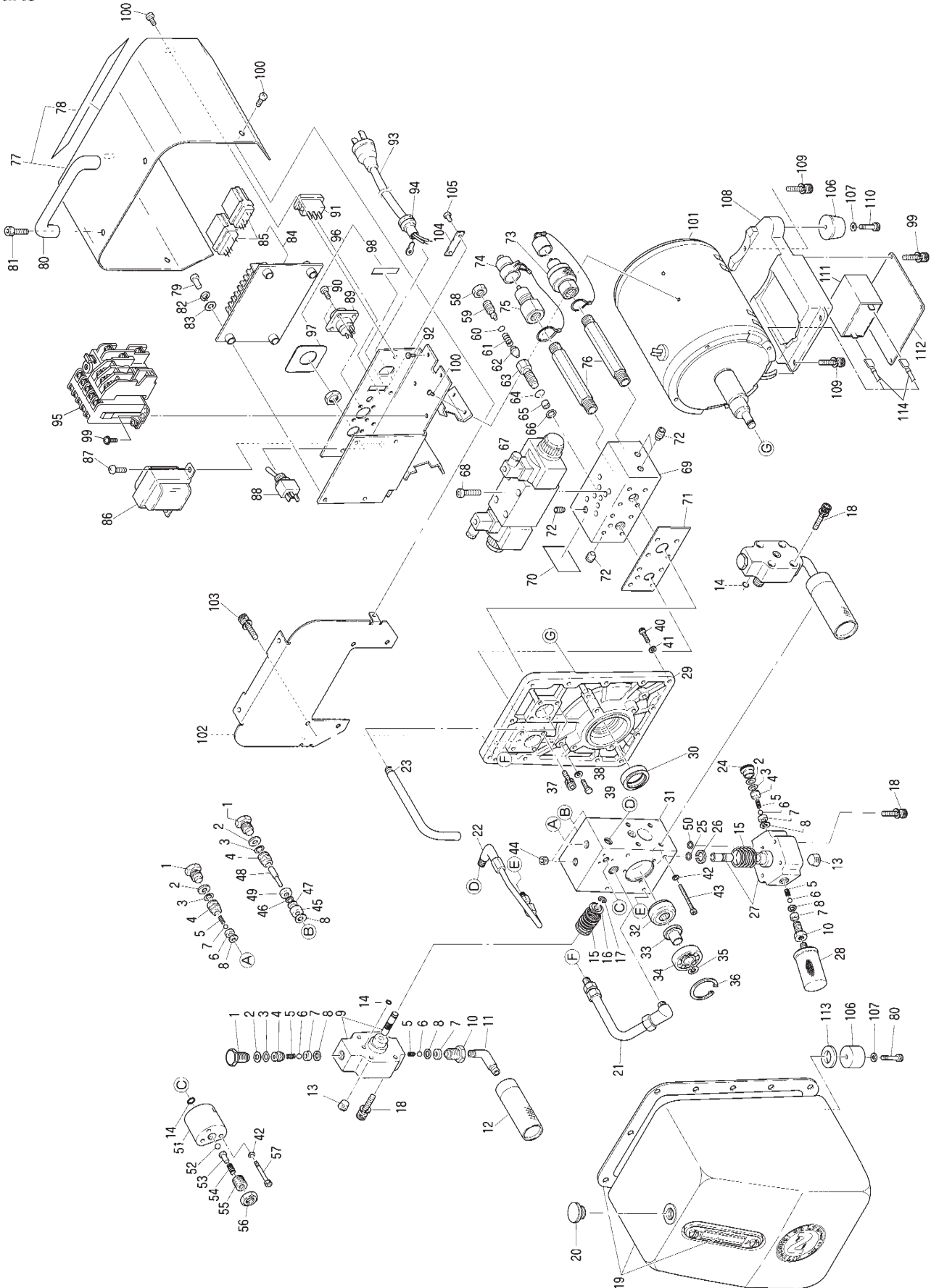
7 ORDERING SERVICE PARTS

In ordering parts and components from the sales agent from whom you purchased the tool or an authorized dealer, give each part number, part name and quantity required.

8 HPD-05 ASSEMBLY

⚠ WARNING

The illustration is for information only. Users should never disassemble parts. Contact the sales agent from whom you purchased the tool or an authorized dealer should the tool need service, repair or replacement of parts



9 HPD-05 PARTS LIST

The part numbers with () are included in the Assy parts written above them.

No.	Parts No.	Parts Name	Q'ty	Price
1	TP05874	Check Set Plug	4	
2	TP05872	Back-up Ring P-10 T2	5	
3	TP05873	O-Ring P-10	5	
4	TP05871	Delivery Valve	5	
5	TP05870	Spring 0.3 × 5 × 7	2	
6	CP00800	Ball 1/4	7	
7	TP05869	Valve Seat	7	
8	TP05868	Packing	8	
9	TA9A586	Cylinder Piston Sub Assy	2sets	
10	TP05875	Suction Valve	3	
11	TP05876	Elbow PT1/8 × PF1/4	2	
12	TP05877	Filter	2	
13	TP05863	Hex. Socket Set Screw PT1/4	3	
14	TP05878	O-Ring P-8	3	
15	TP05865	Piston Spring	3	
16	TP05866	Spring Seat	2	
17	TP05867	Retaining Ring E-64	2	
18	TQ03341	Hex. Socket Head Cap Screw 6 × 30	12	
19	TA97817	Oil Tank Assy	1set	
21	TA92456	Steel Pipe Assy	1set	
22	TA94198	Steel Pipe Assy	1set	
23	TQ03234	Drain Pipe	1	
24	TP07963	Check Set Plug	1	
25	TP07962	Retaining Ring WR-11	1	
26	TP07961	Spring Seat	1	
27	TA9A803	(L) Cylinder Piston Sub Assy	1set	
28	TP07964	Suction Filter	1	
29	TQ03233	Bracket	1	
30	TP05856	Oil Seal S25 × 38 × 8	1	
31	TQ03232	Pump Body	1	
32	TP09671	Yoke Type Track Roller	1	
33	TP09672	Distance Collar	1	
34	TP05928	Ball Bearing	1	
35	TP09673	Retaining Ring E10	1	
36	CP01086	Internal Retaining Ring C-42	1	
37	TQ03340	Hex. Socket Head Cap Screw 6 × 25	8	
38	TP05853	Seal Washer W5	4	
39	TP13247	Hex. Head Bolt 5 × 22	4	
40	TP02863	Hex. Socket Head Cap Screw 5 × 20	13	
41	TP05950	Copper Washer	13	
42	TP00513	Spring Washer M5	7	
43	TP05857	Hex. Socket Head Cap Screw 5 × 70	6	
44	TP06597	Hex. Socket Set Screw PT1/8	2	
45	TP06616	Valve Sleeve	1	
46	TP06617	O-Ring P-6	1	
47	TP06618	Back-up Ring P-6 T2	1	
48	TP06619	Spool	1	

No.	Parts No.	Parts Name	Q'ty	Price
49	TP06620	Valve Sleeve Plate	1	
50	TP05949	O-Ring P-7	1	
51	TP06632	Unloader Valve	1	
52	TP06633	Ball 5/16	1	
53	TP07966	Ball Retainer	1	
54	TP07967	Spring 2 × 7 × 25.2	1	
55	TQ03407	Hex. Socket Set Screw with Flat Point 12 × 15	1	
56	TP05422	Hex. Nut M12	1	
57	TP06637	Hex. Socket Head Cap Screw 5 × 40	3	
58	TP14009	Hex. Nut M12 × 1	1	
59	TP14279	Adjust Screw	1	
60	TP11241	O-Ring P-7	1	
61	TP14269	Spring 7.4 × 20 × 2	1	
62	TA98852	Relief Valve Sub Assy	1	
63	TP14267	Relief Valve Body	1	
64	TP12010	O-Ring P-14	1	
65	TP14266	Relief Valve Seat	1	
66	TP14265	Copper Washer 6 × 16 × 0.8	1	
67	TQ03463	Solenoid Valve (115V)	1	
68	TQ03464	Solenoid Valve (230V)	1	
69	TP06217	Hex. Socket Head Cap Screw 6 × 25	4	
70	TQ03249	Manifold	1	
71	TQ03248	Label Caution Relief Valve	1	
72	TP06597	Gasket	1	
73	CA94119	Hex. Socket Set Screw PT1/8	1set	
74	CB09421	700R-3P Assy	1set	
75	CA82240	450B-3P-D Assy	1set	
76	TQ03238	450B-3P Assy	1set	
77	TB02491	Cupla Joint	2	
78	TB02498	Cover Assy (115V)	1set	
79	(TQ03245)	Cover Assy (230V)	1set	
80	(TQ03247)	Label Warning (115V)	1	
81	LP30251	Label Warning (230V)	1	
82	TP04234	Pan Head Screw 4 × 16	4	
83	LP30299	Spring Washer M4	4	
84	TB02393	Washer M4	4	
85	(TQ02621)	Print Board	1set	
86	TQ03251	Relay G2R-2-S	2	
87	TQ03252	Transformer 115V/20V 0.3A (115V)	1	
88	LQ00378	Transformer 230V/20V 0.3A (230V)	1	
89	TB01467	Pan Head Screw 3 × 6	2	
90	TP00056	Switch ET105D12	1	
91	TQ02893	Metal Consent Receptacle Assy	1set	
92	LP06489	Pan Head Screw 3 × 6	4	
93	TA9A758	Snap-in Switch LLA25L2	1	
94	TB01207	Pan Head Screw 4 × 6	1	
95		Cable Assy (115V)	1set	
96		Cable Code Assy (230V)	1set	

No.	Parts No.	Parts Name	Q'ty	Price
94	TP01757	Cord Stopper SR-7P-2	1	
95	TQ12935	Magnet Switch	1	
		FW-0/A6A(6-9A)AC110V 1a		
		Magnet Switch	1	
		FW-0/A(2.8-4.2A)AC220V 1a		
		Switch Plate Sub Assy	1set	
96	TB02490	Label Change Switch	1	
97	(TQ03243)	Label Power Supply	1	
98	(TQ03244)	Pan Head Screw 4 × 6	6	
99	TQ03193	Pan Head Screw 4 × 8	8	
100	LQ00190	Motor Assy (115V)	1set	
101	TA97964	Motor Assy (230V)	1set	
102	TQ03250	Partition	1	
103	TQ03327	Hex. Socket Head Cap Screw 5 × 10	4	
104	TP04769	Plate Serial Number	1	
105	TP05136	Drive Rivet No.2 × 4.8	2	
106	TP05925	Mount Foot	4	
107	TP05926	Washer 6.5 × 10 × 1	4	
108	TQ01321	Condenser Box	1	
109	TQ03329	Hex. Socket Head Cap Screw 5 × 15	3	
110	TP07118	Hex. Socket Head Cap Screw 6 × 16	2	
111	TB08698	Condenser Assy	1set	
112	TQ01322	Condenser Cover	1	
113	TP09669	Spacer 6.5 × 28 × 5	2	
114	TQ12568	Quick Disconnect	2	

Accessories

No.	Parts No.	Parts Name	Q'ty	Price
20	TP05929	Oil Cap KRM-A1	1	
80	TQ03239	Hand Grip	1	
81	TP03086	Hex. Socket Head Cap Screw 6 × 20	2	
		Hex. Socket Screw Key 8	1	
		Hex. Socket Screw Key 5	1	
		Instruction Manual	1	



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PUMP Models HPD-05 115V/230V

PROFESSIONAL TOOL

TQ03246-3