

HP350SD HP550SD HP1000SD

DOUBLE ACTING
HYDRAULIC
SEALED HAND
PUMPS



CONTENTS

1. INTRODUCTION
2. TOOL SAFETY
 - 2.1 GENERAL SAFETY
 - 2.2 PERSONNEL COMPETENCY
 - 2.3 DISCLAIMER
 - 2.4 DEFINITION OF TERMS
 - 2.5 HAZARDS
3. GENERAL HAND PUMP OPERATION
 - 3.1 GENERAL GUIDANCE
 - 3.2 HP350SD, HP550SD & HP1000SD
INSTALLATION AND OPERATION
 - 3.3 USE OF EQUALIZER INTERNATIONAL TOOLS
WITH A HYDRAULIC MANIFOLD
4. HAND PUMP MAINTENANCE
 - 4.1 INSPECTION
 - 4.2 CLEANING
 - 4.3 MAINTENANCE
 - 4.4 STORAGE & TRANSPORTATION
 - 4.5 SUB-SEA USAGE
 - 4.6 LONG-TERM STORAGE - MAINTENANCE PLAN
5. TECHNICAL SPECIFICATIONS
 - 5.1 TECHNICAL DATA
 - 5.2 KIT CONTENTS
 - 5.3 HP350SD, HP550SD & HP1000SD WEIGHTS
AND DIMENSIONS
6. TROUBLESHOOTING
 - 6.1 HP350SD/HP550SD/HP1000SD
TROUBLESHOOTING
7. REGULATORY INFORMATION
 - 7.1 REGISTERED HEAD OFFICE
8. PARTS LISTS & SERVICE KITS

15/02/2021

1.

INTRODUCTION

The HP350SD, HP550SD and HP1000SD Hydraulic Hand Pumps output is regulated to 700 bar (10,000 psi) and is delivered from an output port threaded $\frac{3}{8}$ " NPT. The HP350SD, HP550SD and HP1000SD can be used with any double acting 700 bar (10,000 psi) rated hydraulic equipment.

The diaphragm oil reservoir means that, unlike conventional hand pump units, the HP350SD, HP550SD and HP1000SD are operable at all angles and are highly resistant to accidental spillage of hydraulic fluid.

Pressure rating:

- **1st stage:** 13.8 bar (197 psi)
- **2nd stage:** 700 bar (10,000 psi)

2.

TOOL SAFETY

2.1

GENERAL SAFETY

These instructions cover the safe operation and maintenance of THE EQUALIZER **HP350SD, HP550SD, HP1000SD** HYDRAULIC SEALED HAND PUMPS. The use of these tools should be as part of a broader task-based risk assessment, which should be carried out by the operation supervisor or other competent person.

Failure to comply with the safety information contained within this manual could result in personal injury or equipment damage. Read all instructions, warnings and cautions carefully, and follow all safety precautions.

The safety of the operator, any assisting personnel and the general public is of paramount importance. Always work in accordance with applicable national, local, site & company-wide safety procedures.

2.2

PERSONNEL COMPETENCY

Only personnel deemed competent in the use of mechanical and hydraulic equipment should use these tools.

2.3

DISCLAIMER

Equalizer cannot be held responsible for injury or damage resulting from unsafe product use, lack of maintenance or incorrect product and/or system operation. If in doubt as to the safety precautions and applications, contact Equalizer using the contact details at the back of this manual.

2.4

DEFINITION OF TERMS

A **CAUTION** is used to indicate correct operating or maintenance procedures and practices to prevent damage to, or destruction of equipment or other property.

A **WARNING** indicates a potential danger that requires correct procedures or practices to avoid personal injury.

A **DANGER** is only used when your action or lack of action may cause serious injury or even death.



DO: an illustration showing how the tool should be used.



DON'T: an illustration showing an incorrect way to use a tool.

2.5

HAZARDS



IMPORTANT: Operator must be competent in the use of hydraulic equipment. The operator must have read and understood all instructions, safety issues, cautions and warnings before starting to operate the Equalizer equipment.



WARNING: To avoid personal injury and possible equipment damage, make sure all hydraulic components are rated to a safe working pressure of 700 bar (10,000 psi)



WARNING: Do not overload equipment. Overloading causes equipment failure and possible personal injury.



CAUTION: Make sure that all system components are protected from external sources of damage, such as excessive heat, flame, moving machine parts, sharp edges and corrosive chemicals.



CAUTION: Avoid sharp bends and kinks that will cause severe back-up pressure in hoses. Bends and kinks lead to premature hose failure. Do not drop heavy objects onto hoses. A sharp impact may cause internal damage to hose wire strands; applying pressure to a damaged hose may cause it to rupture. Do not place heavy weights on the hoses, or allow vehicles to roll over the hoses; crush damage will lead to premature hose failure.



WARNING: Immediately replace worn or damaged parts with genuine Equalizer parts. Equalizer parts are designed to fit properly and withstand rated loads. For repair or maintenance service contact your Equalizer distributor or service centre.



DANGER: To avoid personal injury keep hands and feet away from the tool and workpiece during operation.



WARNING: Always wear suitable clothing and Personal Protective Equipment (PPE).



DANGER: Do not handle pressurised hoses. Escaping oil under pressure can penetrate the skin, causing serious injury. If oil is injected under the skin, seek medical attention immediately.



WARNING: Never pressurize unconnected couplers. Only use hydraulic equipment in a connected system.



IMPORTANT: Do not lift hydraulic equipment by the hoses or couplers. Use the carrying handle or other means of safe transport.



CAUTION: Do not operate the equipment without lubricating all moving parts. Use only high pressure molybdenum disulphide grease.

3.

GENERAL HAND PUMP OPERATION

3.1

GENERAL GUIDANCE

1. The control lever is moved to the advance position to pressurise the lower/advance port or to the retract position to pressurise the upper/retract port.



2. The pump handle is raised, which creates a vacuum in the piston chamber which sucks oil from the reservoir into the chamber.



3. The pump handle is depressed, which pumps the oil from the chamber through the outlet port and into the system to which the pump is connected.



4. Steps 2 & 3 are repeated, which will pump oil into the system until the maximum pressure of 10,000 psi (700 bar) is achieved, at which point the safety release valve will open and the oil will cycle back to the reservoir.



3.2 HP350SD, HP550SD & HP1000SD CONNECTION AND OPERATION



WARNING: Never attempt to pressurise the pump when the pressure gauge is not connected or the pump is not connected to a system.



DANGER: Always check the hydraulic system in which the pump is to be used, is rated for 700 bar (10 000 psi). Over pressurizing a hydraulic system will result in component failure and personal injury.

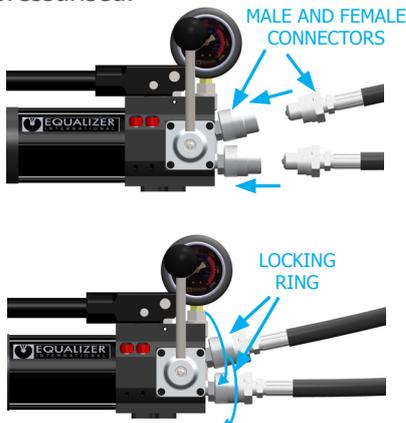
1. Prior to using the pump the hydraulic gauge must be fitted. push the male connector on the gauge and female connector on the gauge adaptor together fully and rotate the locking ring counterclockwise until fully tight.



2. Ensure the hydraulic system you wish to pressurise has been bled and is free from air and leaks. Connect the pump into the system using the screw connector supplied with the pump, push the male and female connectors together fully and rotate the locking ring clockwise until fully tight.



WARNING: Never disconnect the pump or other components when the system is pressurised.



3. The HP350SD, HP550SD & HP1000SD is fitted with a control lever. This enables the operator to pressurise the advance or retract hoses. Pushing the control lever forward to activate the advance port.



4. Pressurise the advance hose by raising and depressing the pump handle until the desired pressure is indicated on the pressure gauge N.B. max. pressure 10,000 psi (700 bar)



5. To depressurise the advance hose move the control lever to the retract position this will redirect the flow to the retract hose.



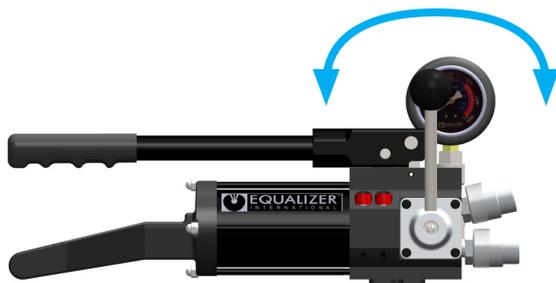
- Pressurise the retract hose by raising and depressing the pump handle with the control lever in the retract position until the desired pressure is indicated on the pressure gauge N.B. max. pressure 10,000 psi (700 bar)



- To keep pressure in both hoses, set the control lever in the central vertical position.



- To depressurise both hoses, set the control lever in the advanced position until the gauge indicates zero pressure and then set the control lever in the retract position until the gauge indicates zero pressure.



- Once both systems have been fully depressurised the pump can be disconnected by unscrewing the couplers.



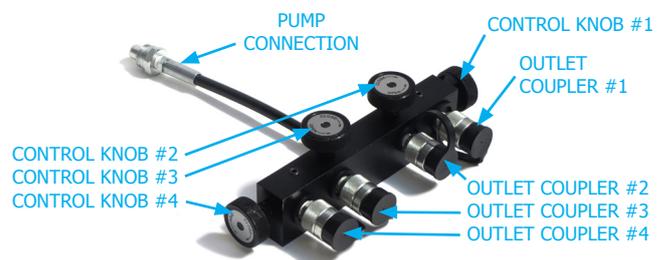
3.3

USE OF EQUALIZER INTERNATIONAL TOOLS WITH A HYDRAULIC MANIFOLD

Using the hydraulic manifold enables more than 2 tools to be used simultaneously from a single pump. The function of a manifold is to share the hydraulic output of one pump evenly between multiple tools, ensuring that all tools have equal pressure so can be used together in sharing the load.

USAGE GUIDELINES

- Ensure the manifold, the tools and the pump have the same hydraulic pressure rating.
- Do not pressurise the manifold unless all couplers are connected to tools or positively blanked off using appropriate pressure fittings; do not rely on the manifold valves or couplers to hold hydraulic pressure.
- Isolate individual tools by turning the corresponding Control Knob clockwise until tight. Isolating a single tool will disconnect it from the rest of the tools and the pump, maintaining whatever hydraulic pressure is currently within the tool and the hose.
- Isolating individual tools can allow some degree of differential control between manifolded tools, enabling different pressures or positions to be held for each tool, for example in controlling alignment.
- To return an isolated tool to the shared pressure of the manifold, slowly loosen the corresponding Control Knob anti-clockwise fully. Any pressure in the tools, manifold or pump will be balanced out and may result in an increase or decrease in pressure of any given tool.



IMPORTANT: there is a risk of back-loading individual tools when manifolded. To mitigate this risk, ensure all Control Knobs are fully open before releasing pump pressure!

4.

HAND PUMP MAINTENANCE

4.1 INSPECTION

A thorough inspection should be carried out prior to usage, storage or transportation to ensure the completeness and condition of the hand pump.

Inspection should include:

- visual inspection of the outer parts of the hand pump, checking for obvious damage, degradation or missing parts.
- visual inspection of the couplers and gauges, checking for obvious damage and degradation.

4.2 CLEANING

To lightly clean the pump, wipe gently with a damp cloth.

If more thorough cleaning is required (for example following immersion in water) carry out the following cleaning procedure:

- strip the tool down, observing the schematics in section 8
- clean the components using detergent, following the manufacturer's guidelines
- rinse the components to remove traces of detergent
- dry the component thoroughly

Inspect, service and lubricate the tool immediately after the cleaning process.

4.3 MAINTENANCE

Replace missing, worn or damaged parts. Use only genuine Equalizer parts from approved distributors or service centres. Equalizer parts have been engineered and manufactured to be fit for purpose.

Lubricate all moving parts with light machine oil.

If topping or replacing hydraulic oil as part of a service, use only premium quality hydraulic oil of the grade 15 cSt.

4.4 STORAGE & TRANSPORTATION

Equalizer Hand Pumps should be stored in a cool, dry place. Tools should always be cleaned, serviced and lubricated prior to storage. Ensure that tools are stored in their designated packing cases.

4.5 SUB-SEA USAGE

The Equalizer range of HP hydraulic hand pumps are fitted with a sealed-bladder type reservoir system that allows for sub-sea operation.

Please contact Equalizer International for instruction sheet.

4.6

LONG-TERM STORAGE - MAINTENANCE PLAN

1. Rub components down with a dry cloth to remove moisture.
2. Coat EVERY surface and contact point with a corrosion inhibitor. Where necessary, coat inside and outside of component
3. Nuts and threads must also be coated with a corrosion inhibitor.
4. Once surfaces have been coated, seal individual components in clear plastic bags or clear vacuum bags or clear shrink wrap.
NOTE: bags/shrink wrap must be clear for visibility. Take care when using shrink wrap that the tool is/ components are still easy to see.
5. Remove all or, where not vacuum sealed, as much air from bags as possible.
6. Once bags have been closed and sealed DO NOT re-open. Any visual inspections must be done with closed and sealed bags. If bags are opened the components will have to be dried, re-coated and re-sealed in bags/ shrink wrap.
7. Replace silica gel (100g) EVERY TIME the case is opened.
NOTE: depending on moisture content of air, silica gel should be changed weekly.
8. Visually inspect kits after 30-days and every 30-days thereafter. Remember to replace silica gel before closing case.

5.

TECHNICAL SPECIFICATIONS

5.1

TECHNICAL DATA

	STAGE	HP350SD	HP550SD	HP1000SD
PUMP TYPE		TWO SPEED	TWO SPEED	TWO SPEED
PRESSURE RATING	1st	13.8bar (197psi)	13.8bar (197psi)	13.8bar (197psi)
	2nd	700bar (10,000psi)	700bar (10,000psi)	700bar (10,000psi)
NOMINAL OIL CAPACITY		350cc (21.4in ³)	550cc (33.6in ³)	1000cc (61.0in ³)
USABLE OIL CAPACITY		300.0cc (18.3in ³)	580.0cc (35.4in ³)	1110.0cc (67.7in ³)
OIL VOLUME PER STROKE	1st	3.62cc (0.221in ³)	3.62cc (0.221in ³)	3.62cc (0.221in ³)
	2nd	0.77cc (0.046in ³)	0.77cc (0.046in ³)	0.77cc (0.046in ³)
MAX HANDLE EFFORT		33kgf (72.75lbf)	25kgf (55.12lbf)	21kgf (46.30lbf)
PISTON STROKE		18.0mm (0.71")	18.0mm (0.71")	18.0mm (0.71")
HYDRAULIC OIL		Grade 15 cSt	Grade 15 cSt	Grade 15 cSt

5.2 KIT CONTENTS

HP350SD KIT COMPONENTS



Product Code: HP350SDMIN

- 1 x HP350SD Pump Unit
- 1 x 700 bar (10 000 psi) Pressure Gauge
- 1 x 3/8" Port Gauge Adaptor
- 1 x Instruction Manual
- 1 x Cardboard Packaging

Packaging Dimensions:
250 mm x 180 mm x 600 mm
(9.84" x 7.09" x 23.62")

HP550SD KIT COMPONENTS



Product Code: HP550SDMIN

- 1 x HP550SD Pump Unit
- 1 x 700 bar (10 000 psi) Pressure Gauge
- 1 x 3/8" Port Gauge Adaptor
- 1 x Instruction Manual
- 1 x Cardboard Packaging

Packaging Dimensions:
250 mm x 180 mm x 700 mm
(9.84" x 7.09" x 27.56")

HP1000SD KIT COMPONENTS



Product Code: HP1000SDMIN

- 1 x HP1000SD Pump Unit
- 1 x 700 bar (10 000 psi) Pressure Gauge
- 1 x 3/8" Port Gauge Adaptor
- 1 x Instruction Manual
- 1 x Cardboard Packaging

Packaging Dimensions:
250 mm x 180 mm x 900 mm
(9.84" x 7.09" x 35.43")

HYDRAULIC MANIFOLD KITS

● MAN3TE KIT

Product Code: MAN3TESTD

- 1x HP1000S Pump Unit
- 1x 700 bar (10 000 psi) Gauge
- 1x 3/8" Port Gauge Adaptor
- 3x 2.0m Hydraulic Hose
- 1x 3 Port Hydraulic Manifold with Couplers
- 1x Carry Case with foam inserts
- 1x Instruction Manual

Packaging Dimensions:
1190mm x 540mm x 165mm
(46.9" x 21.3" x 6.5")

● MAN4TE KIT

Product Code: MAN4TESTD

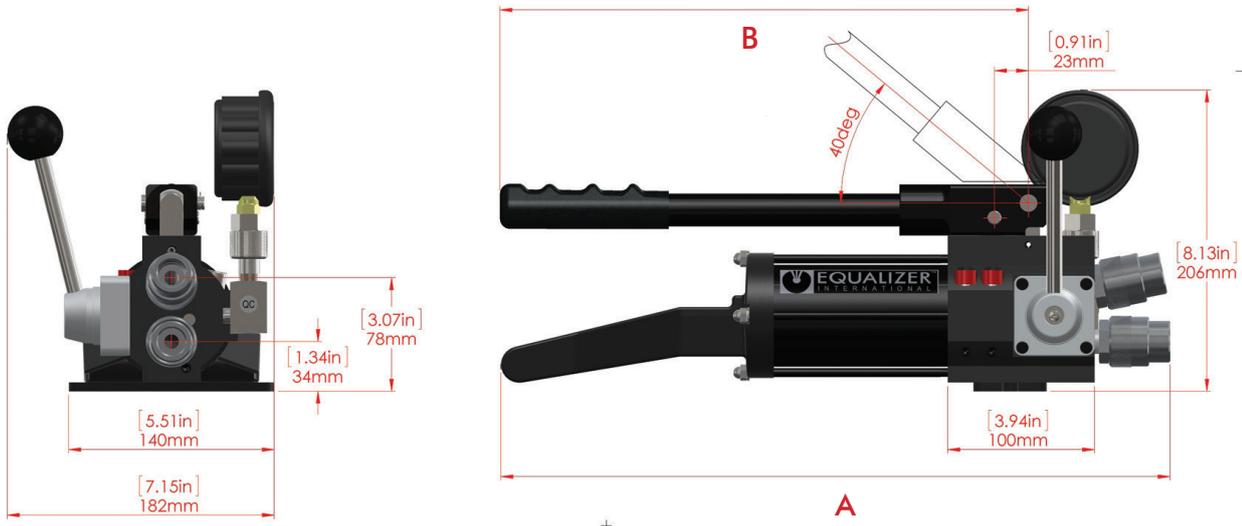
- 1x HP1000S Pump Unit
- 1x 700 bar (10 000 psi) Gauge
- 1x 3/8" Port Gauge Adaptor
- 4x 2.0m Hydraulic Hose
- 1x 4 Port Hydraulic Manifold with Couplers
- 1x Carry Case with foam inserts
- 1x Instruction Manual

Packaging Dimensions:
1190mm x 540mm x 165mm
(46.9" x 21.3" x 6.5")

5.3

HP350SD, HP550SD & HP1000SD

WEIGHTS AND DIMENSIONS



	HP350SD	HP550SD	HP1000SD
OVERALL LENGTH (A)	456.0mm (17.95")	454.0mm (17.87")	769.0mm (30.28")
HANDLE LENGTH (B)	360.0mm (14.17")	490.0mm (19.29")	537.0mm (21.14")
PUMP WEIGHT	5.0kg (11.0lb)	5.6kg (12.3lb)	6.7kg (14.8lb)
GROSS KIT WEIGHT	5.5kg (12.1lb)	6.1kg (13.4lb)	7.2kg (15.9lb)

6.

TROUBLESHOOTING

6.1

HP350SD/HP550SD/HP1000SD

TROUBLESHOOTING

HOSES ARE CONNECTED AND THE PUMP QUICKLY REACHES MAXIMUM PRESSURE BUT THE TOOL HAS NOT ADVANCED

POSSIBLE CAUSE:

One or more of the connectors are not fully tightened and the hydraulic oil cannot pass through from the pump to the cylinder.

RECOMMENDED ACTION:

Check all connectors are fully tightened and the release valve is in the fully closed position.

HOSES ARE CONNECTED AND THE TOOL ADVANCES BUT THERE IS MINIMAL PRESSURE ON THE PUMP HANDLE; THE HANDLE IS RISING BACK OF ITS OWN ACCORD

POSSIBLE CAUSE:

There is dirt or a damaged valve seat within the pump unit.

RECOMMENDED ACTION:

The pump should be sent to an authorised Equalizer distributor for repair.

THE TOOL THE HAND PUMP IS DRIVING IS ADVANCING BUT DOES NOT REACH FULL PRESSURE.

POSSIBLE CAUSE:

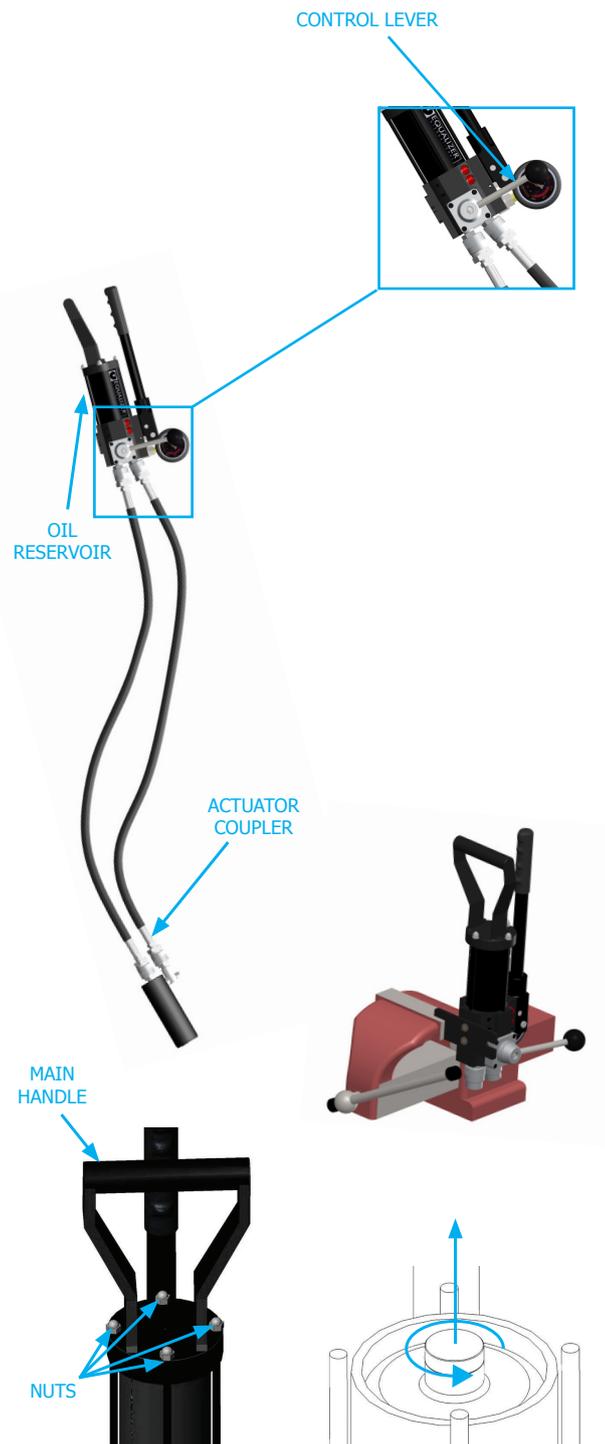
Air could be present in the hydraulic system.

RECOMMENDED ACTION:

Follow the airlock removal procedure:

1. Connect the hand pump to the Actuator with the hydraulic hoses
2. Set the control lever to the advance position, and prime the pump until the hydraulic cylinder is fully extended and a small pressure is achieved
3. With the hand pump held above the actuator and the actuator in an upright position, set the control valve to the retract position and prime the pump until the actuator is fully retracted and a small pressure is achieved. this will cause air that is within the system to be forced up through the pump and vented into the oil reservoir
4. Repeat steps 1 - 3 three or four times to ensure that all air is removed from the system and the tool will reach full working pressure
5. Release all pressure from the system then disconnect the hand pump from the hydraulic hose, grip the baseplate of the hand pump body in a vice with the pump body vertical and the main handle at the top
6. Remove the four nuts holding the main handle and lift off
7. Grip the refilling plug with pliers and extract it by pulling and twisting simultaneously. Ensure the reservoir body is held down when removing the refilling plug as pulling up on the reservoir body will release the bladder within, and oil will spill out.
8. Fill the reservoir to the top with a good quality hydraulic oil of the grade 15 cSt
9. Reinsert the refilling plug, wipe away any oil, and reassemble by reversing the disassembly process

AIRLOCK REMOVAL PROCEDURE:



7.

REGULATORY INFORMATION

7.1

REGISTERED HEAD OFFICE

EQUALIZER INTERNATIONAL LTD.
Equalizer House
Claymore Drive
Aberdeen
Scotland
AB23 8GD

8.

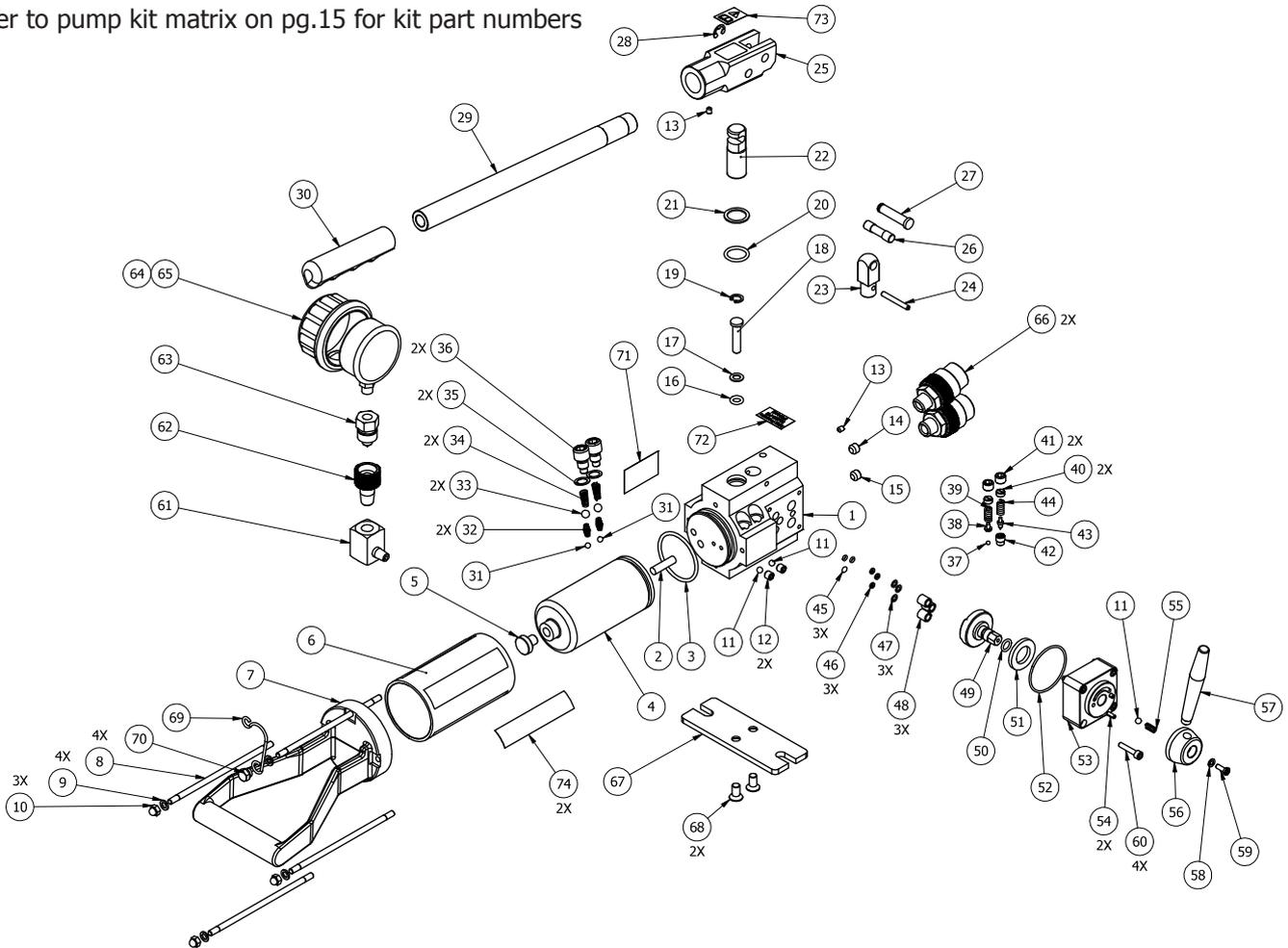
PARTS LISTS & SERVICE KITS

PUMPS KIT MATRIX

KITS	350S	350D	350SD	550S	550D	550SD	1000S	1000D	1000SD
BLADDER SERVICE KIT A 715100-01	X	X							
TAIL BASE SERVICE KIT B 725200-01	X	X							
PISTON SERVICE KIT C 715300-01	X	X	X	X	X	X	X	X	X
HANDLE SERVICE KIT D 715400-01	X	X	X						
YOKE SERVICE KIT E 715500-01	X	X	X	X	X	X	X	X	X
RELEASE KNOB SERVICE KIT F 715600-01	X	X		X	X		X	X	
VALVE SERVICE KIT G 715700-01	X	X	X	X	X	X	X	X	X
VALVE SERVICE KIT H 715800-01	X	X	X	X	X	X	X	X	X
BASEPLATE SERVICE KIT I 715900-01	X	X	X	X	X	X	X	X	X
RELEASE KNOB SERVICE KIT J 726000-01		X			X			X	
HOUSING SERVICE KIT K 716100-01	X	X	X	X	X	X	X	X	X
GAUGE SERVICE KIT L 716200-01	X	X	X	X	X	X	X	X	X
GAUGE ADAPTOR SERVICE KIT M 716300-01	X	X		X	X		X	X	X
BLADDER SERVICE KIT N 735100-01				X	X	X			
HANDLE SERVICE KIT O 735300-01				X	X	X	X	X	X
TAIL BASE SERVICE KIT P 735200-01				X	X	X			
BLADDER SERVICE KIT Q 540014-01-01							X	X	X
VALVE SERVICE KIT R 707200-01			X			X			X
VALVE SERVICE KIT S 707300-01			X			X			X
TAIL BASE SERVICE KIT T 540015-01									X

HP350SD DOUBLE ACTING HAND PUMP

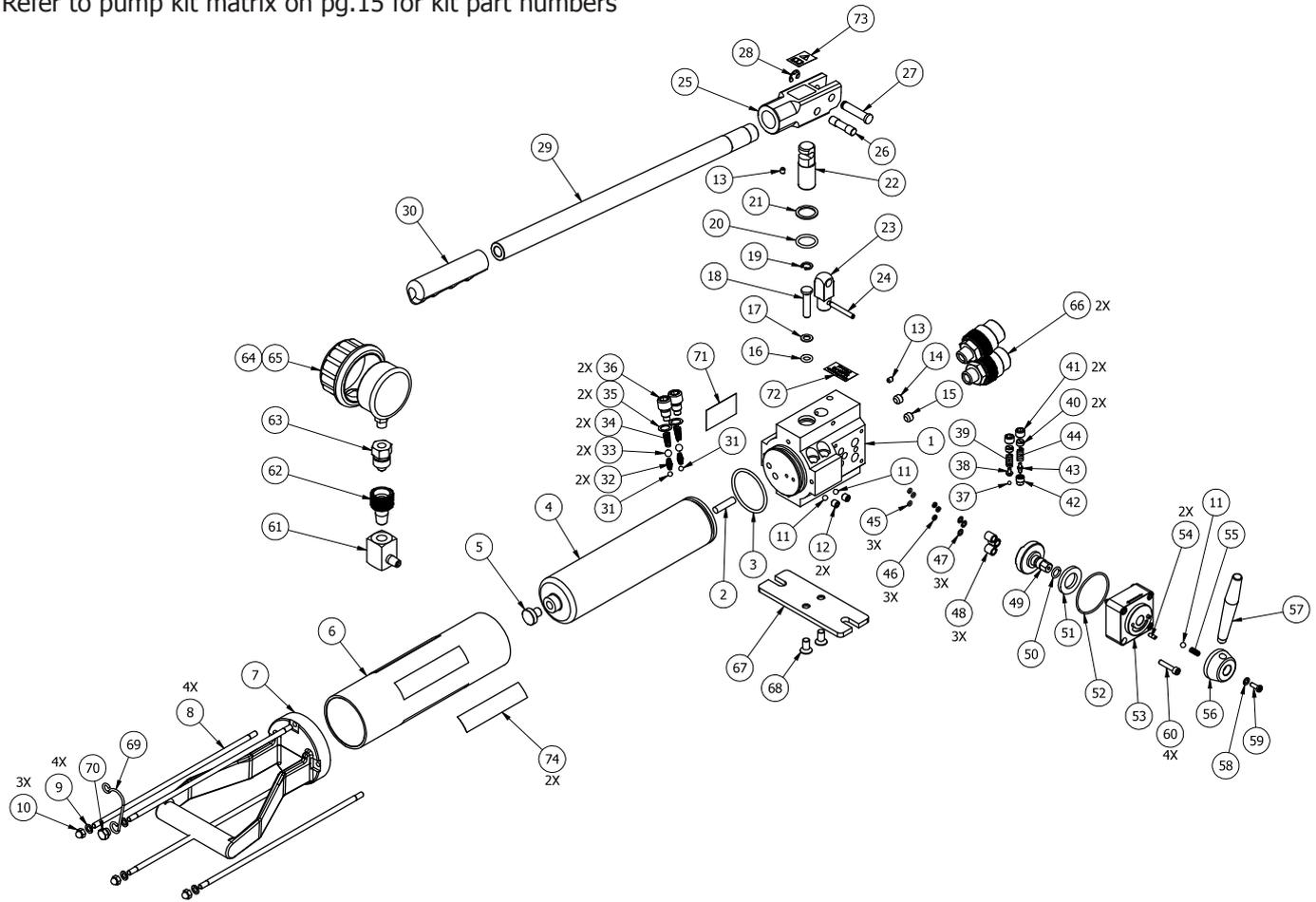
Refer to pump kit matrix on pg.15 for kit part numbers



ITEM NO.	KIT/PART No.	DESCRIPTION	QTY	ITEM NO.	KIT/PART No.	DESCRIPTION	QTY
1	707001-01	PUMP HOUSING	1	38	H	SPRING END CAP	1
2	A/N/Q	OIL FILTER	1	39	H	L.P. SPRING	1
3	A/N/Q	O-RING	1	40	H	SCREW	2
4	A	RESERVOIR BLADDER	1	41	H	SET SCREW	2
5	A/N/Q	REFILLING PLUG	1	42	H	CONE SEAT	1
6	710601-01	RESERVOIR	1	43	H	CONE	1
7	B/P/T	TAIL BASE	1	44	H	LONG SEPARATOR SPRING	1
8	B	SCREW	4	45	R	O-RING	3
9	B/P/T	SPRING WASHER	4	46	R	BACK UP RING	3
10	B/P/T	NUT	3	47	R	THRUST WASHER	3
11	F/K/S	CHECK BALL	3	48	R	SHEAR SEAL A	3
12	K	SCREW	2	49	540006-01	VALVE ROTOR	1
13	D/O	SCREW	2	50	S	O-RING	1
14	540001-01	SCREW	1	51	S	BEARING	1
15	707067-01	SCREW	1	52	S	O-RING	1
16	C	O-RING	1	53	540007-01	TOP PLATE	1
17	C	BACK-UP RING	1	54	S	SPRING PIN	2
18	C	H.P. PISTON	1	55	S	SPRING	1
19	C	SNAP RING	1	56	540009-01	SWITCH BASE	1
20	C	O-RING	1	57	540010-01	HANDLE	1
21	C	BACK-UP RING	1	58	S	TOOTHED LOCK WASHER	1
22	C	L.P. PISTON	1	59	S	SCREW	1
23	E	YOKE BASE	1	60	S	SCREW	4
24	E	SPRING PIN	1	61	707071-01	ELBOW	1
25	D/O	YOKE	1	62	M	GAUGE COUPLER FEMALE	1
26	D/O	PISTON PIN	1	63	L	GAUGE COUPLER MALE	1
27	D/O	YOKE PIN	1	64	L	GAUGE	1
28	D/O	RETAINING RING	1	65	L	PROTECTOR	1
29	D	HANDLE	1	66	M	COUPLER	2
30	D/O	HANDLE GRIP	1	67	I	BASE PLATE	1
31	G	STEEL BALL	2	68	I	SCREW	2
32	G	SPRING	2	69	B/P	PUMP RETAINING CLIP	1
33	G	STEEL BALL	2	70	B/P	PUMP RETAINING CLIP NUT	1
34	G	OUTLET BALL SPRING	2	71	ON REQUEST	HP350SD S, No STICKER	1
35	G	COPPER WASHER	2	72	070260-01	MAX PRESSURE STICKER	1
36	G	VALVE COVER SCREW	2	73	070001-01	WARNING READ INSTRUCTION STICKER	1
37	H	STEEL BALL	1	74	070058-01	EQUALIZER LOGO RESERVOIR STICKER	2

HP550SD DOUBLE ACTING HAND PUMP

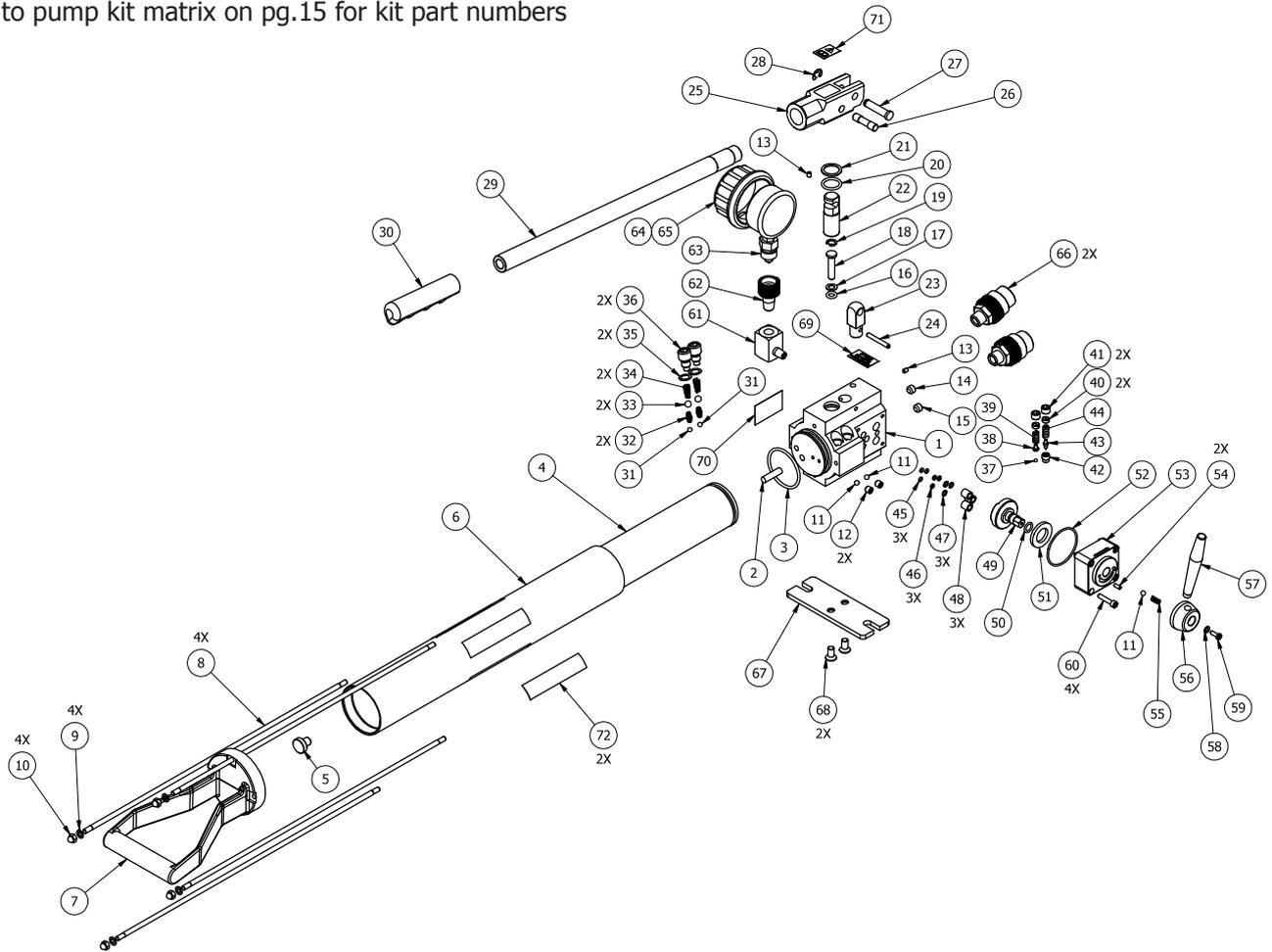
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1	707001-01	PUMP HOUSING	1	38	H	SPRING END CAP	1
2	A/N/Q	OIL FILTER	1	39	H	L.P. SPRING	1
3	A/N/Q	O-RING	1	40	H	SCREW	2
4	N	RESERVOIR BLADDER	1	41	H	SET SCREW	2
5	A/N/Q	REFILLING PLUG	1	42	H	CONE SEAT	1
6	708002-01	RESERVOIR	1	43	H	CONE	1
7	B/P/T	TAIL BASE	1	44	H	LONG SEPARATOR SPRING	1
8	P	SCREW	4	45	R	O-RING	3
9	B/P/T	SPRING WASHER	4	46	R	BACK UP RING	3
10	B/P/T	NUT	3	47	R	THRUST WASHER	3
11	F/K/S	CHECK BALL	3	48	R	SHEAR SEAL A	3
12	K	SCREW	2	49	540006-01	VALVE ROTOR	1
13	D/O	SCREW	2	50	S	O-RING	1
14	540001-01	SCREW	1	51	S	BEARING	1
15	707067-01	SCREW	1	52	S	O-RING	1
16	C	O-RING	1	53	540007-01	TOP PLATE	1
17	C	BACK-UP RING	1	54	S	SPRING PIN	2
18	C	H.P. PISTON	1	55	S	SPRING	1
19	C	SNAP RING	1	56	540009-01	SWITCH BASE	1
20	C	O-RING	1	57	540010-01	HANDLE	1
21	C	BACK-UP RING	1	58	S	TOOTHED LOCK WASHER	1
22	C	L.P. PISTON	1	59	S	SCREW	1
23	E	YOKE BASE	1	60	S	SCREW	4
24	E	SPRING PIN	1	61	707071-01	ELBOW	1
25	D/O	YOKE	1	62	M	GAUGE COUPLER FEMALE	1
26	D/O	PISTON PIN	1	63	L	GAUGE COUPLER MALE	1
27	D/O	YOKE PIN	1	64	L	GAUGE	1
28	D/O	RETAINING RING	1	65	L	PROTECTOR	1
29	O	HANDLE	1	66	M	COUPLER	2
30	D/O	HANDLE GRIP	1	67	I	BASE PLATE	1
31	G	STEEL BALL	2	68	I	SCREW	2
32	G	SPRING	2	69	B/P	PUMP RETAINING CLIP	1
33	G	STEEL BALL	2	70	B/P	PUMP RETAINING CLIP NUT	1
34	G	OUTLET BALL SPRING	2	71	ON REQUEST	HP550SD STICKER	1
35	G	COPPER WASHER	2	72	070260-01	MAX PRESSURE STICKER	1
36	G	VALVE COVER SCREW	2	73	070001-01	WARNING READ INSTRUCTION STICKER	1
37	H	STEEL BALL	1	74	070058-01	EQUALIZER LOGO RESERVOIR STICKER	2

HP1000SD DOUBLE ACTING HAND PUMP

Refer to pump kit matrix on pg.15 for kit part numbers



ITEM NO.	KIT / PART No	DESCRIPTION	QTY	ITEM NO.	KIT / PART No	DESCRIPTION	QTY
1	707001-01	PUMP HOUSING	1	37	H	STEEL BALL	1
2	A/N/Q	OIL FILTER	1	38	H	SPRING END CAP	1
3	A/N/Q	O-RING	1	39	H	L.P. SPRING	1
4	Q	RESERVOIR BLADDER 1000	1	40	H	SCREW	2
5	A/N/Q	REFILLING PLUG	1	41	H	SET SCREW	2
6	520002-01	RESERVOIR 1000	1	42	H	CONE SEAT	1
7	B/P/T	TAIL BASE	1	43	H	CONE	1
8	T	SCREW	4	44	H	LONG SEPARATOR SPRING	1
9	B/P/T	SPRING WASHER	4	45	R	O-RING	3
10	B/P/T	NUT	4	46	R	BACK UP RING	3
11	F/K/S	CHECK BALL	3	47	R	THRUST WASHER	3
12	K	SCREW	2	48	R	SHEAR SEAL A	3
13	D/O	SCREW	2	49	540006-01	VALVE ROTOR	1
14	540001-01	SCREW	1	50	S	O-RING	1
15	707067-01	SCREW	1	51	S	BEARING	1
16	C	O-RING	1	52	S	O-RING	1
17	C	BACK-UP RING	1	53	540007-01	TOP PLATE	1
18	C	H.P. PISTON	1	54	S	SPRING PIN	2
19	C	SNAP RING	1	55	S	SPRING	1
20	C	O-RING	1	56	540009-01	SWITCH BASE	1
21	C	BACK-UP RING	1	57	540010-01	HANDLE	1
22	C	L.P. PISTON	1	58	S	TOOTHED LOCK WASHER	1
23	E	YOKE BASE	1	59	S	SCREW	1
24	E	SPRING PIN	1	60	S	SCREW	4
25	D/O	YOKE	1	61	707071-01	ELBOW	1
26	D/O	PISTON PIN	1	62	M	GAUGE COUPLER FEMALE	1
27	D/O	YOKE PIN	1	63	L	GAUGE COUPLER MALE	1
28	D/O	RETAINING RING	1	64	L	GAUGE	1
29	O	HANDLE	1	65	L	PROTECTOR	1
30	D/O	HANDLE GRIP	1	66	M	COUPLER	2
31	G	STEEL BALL	2	67	I	BASE PLATE	1
32	G	SPRING	2	68	I	SCREW	2
33	G	STEEL BALL	2	69	070260-01	MAX PRESSURE STICKER	1
34	G	OUTLET BALL SPRING	2	70	ON REQUEST	HP1000SD STICKER	1
35	G	COPPER WASHER	2	71	070001-01	WARNING READ INSTRUCTION STICKER	1
36	G	VALVE COVER SCREW	2	72	070058-01	EQUALIZER LOGO RESERVOIR STICKER	2



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