HYDRAULIC HAND PUMP

The SDP Portable Hydraulic Hand Pump is used for all types of low and high pressure testing, and many other shop, laboratory, and oilfield. Uses such as removing cores from core barrels, removing plungers from insert liner pumps, testing valves, fittings, tubing and casing. It is also used for setting Cement Retainers where mud or cement pumps are not available, and as an actuator for hydraulically controlled valves and hydraulically operated systems.

Benefits / Features:

- Compact: The SPD Portable Hydraulic Hand Pump is an efficient, rugged, two stage force pump in a package weighting only 73 lb. It is small enough to be carried through manholes, into restricted quarters or to remote areas for spot testing.
- Easy to Operate: The pump operates equally well whether the hydraulic medium is water or oil. Changing from the low to high pressure range requires only seconds.

Construction:

- The two pistons of the Hand Pump are positioned concentrically. The Low Pressure Piston has a 1-1/2" OD and 4-1/2" stroke; its capacity is 0.030 gal/stroke. The High Pressure Piston has a ¾" OD and a 4-1/2" stroke with a capacity of 0.008 gal/stroke.

Operation:

- Using the Low Pressure Piston, pressure up to 1,000 psi can be developed easily by hand; with the Handle Extension, up to 2,500 psi can be generated.
- Operation on the High Pressure Piston is accomplished simply by turning the Pressure Shifter, no disassembly or tools are required. With the pump operating on the High Pressure Piston, pressures up to 6,000 psi can be developed.

High-Pressure Discharge Hose:

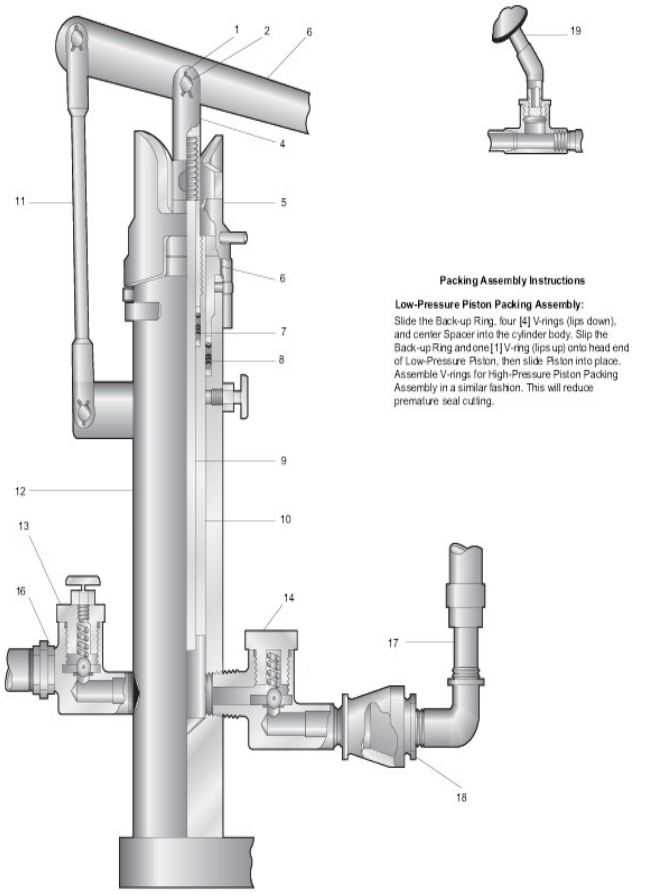
- This unit is designed for the use with the SPD Portable Hydraulic Hand Pump for high pressure operation. It is a flexible, rubber covered hose with a tough smooth exterior over a strong wire braid reinforcement. The interior if the hose is also smooth and made of special oil resistant rubber. The hose is equipped with a small compact connection and has ½" NPT-pipe threads on both ends. A special 1X ½" Extra Heavy Hydraulic Reducer is furnished with each hose order to facilitate connect to the hose and the Hand Pump.

PUMP ASSEMBLY AND SPARE PARTS

Description		Material No.	Weight	Dim
Portable Hydraulic Hand Pump for 6,000 WP	Buna-N	540010000	82 lb	30 x 6 x 22 in.
	Viton® Seals	540010010		
All Hoses:				
10 ft High-Pressure Discharge Hose		540090110	7 lb	-
15 ft High-Pressure Discharge Hose		540090115	10 lb	
20 ft High-Pressure Discharge Hose		540090120	14 lb	
25 ft High-Pressure Discharge Hose		540090125	18 lb	
30 ft High-Pressure Discharge Hose		540090130	22 lb	
50 ft High-Pressure Discharge Hose		540090150	30 lb	
100 ft High-Pressure Discharge Hose		540091000	60 lb	
Repair Kit contains:		070789800	2 lb	4 x 4 x 4 in.
1 each: 011851100, 011851200				
2 each: WWB213H40, 010339600, WWT20S00, WWB115H40				
Above Repair Kit with:				
Stainless Steel Ball		070789801	2 lb	
Viton® Seals and Stainless Steel Ball		070789802	2 lb	

HYDRAULIC HAND PUMP

Product Family No. H54001



Packing Assembly Instructions

Low-Pressure Piston Packing Assembly:

Slide the Back-up Ring, four [4] V-rings (lips down), and center Spacer into the cylinder body. Slip the Back-up Ring and one [1] V-ring (lips up) onto head end of Low-Pressure Piston, then slide Piston into place. Assemble V-rings for High-Pressure Piston Packing Assembly in a similar fashion. This will reduce premature seal cutting.

HYDRAULIC HAND PUMP PART AND WEIGHTS

Item No.	Description	No. Req'd	Material No.	Wt lb	Dimensions in.
1	Cotter Pin	6	WWWX00319	0.1	3/16 x 1 in.
2	Link and Cross Head Pin	3	010010800	0.2	
3	Handle	1	010010300	8.5	
4	Piston Cross-Head	1	010010900	2	
5	Pressure Shifter	1	011301800	3	
6	Low-Pressure Packing Nut	1	010011100	7	-
7	High-Pressure Piston Packing Assembly	1	011851100	0.1	
8	Low-Pressure Piston Packing Assembly	1	011851200	0.1	
9	High-Pressure Piston	1	010011200	1.5	
10	Low-Pressure Piston	1	010011300	3	
11	Compensating Link	1	010011500	2	
12	Cylinder Body and Base Plate Assembly	1	013176501	44	30 x 6 x 2 in.
13	Discharge Valve Assembly *	1	013246600	3	
	Discharge Valve Bonnet	1	012264700	0.2	-
	O-ring	1	WWB213H40	0.1	
	Spring	1	010339600	0.1	
	Steel Ball ■	1	WWT20S000	0.4	3/4 in. Dia
	Body	1	013246500	2	-
	O-ring	1	WWB115H40	0.1	
	Petcock	1	WWWX00007	0.1	1/8 in.
14	Suction Valve Assembly *	1	013246700	3	
	Suction Valve Bonnet	1	012250900	0.3	-
	O-ring	1	WWB213H40	0.1	
	Spring	1	010339600	0.1	
	Steel Ball ■	1	WWT20S000	0.4	3/4 in. Dia
	Body	1	013246500	2	-
	O-ring	1	WWB115H40	0.1	
	ACCESSORY EQUIPMENT				
16	Discharge Attachment Assembly *	1	015590600	3	-
	Extra Strong Nipple	1	WWW00F011	0.1	1 x 6 in.
	Forged Steel GJ Union	1	WWW00L002	0.1	1 in.
17	Suction Hose Assembly *	1	015864000	3	-
	Standard Pipe Nipple	1	WWW00F001	0.1	3/4 x 4 in.
	Punch Lok Band, No. 8	1	WWW007008	0.1	-
	Hose, Neoprene	1	WWW001004	0.1	1 x 54 in.
18	Suction Strainer Assembly *	1	015590700	2	
	Standard Pipe Reducer	1	WWWX00010	0.1	-
	Brass Strainer	1	WWWX00005	0.1	
	Bushing	1	WWW00K001	0.1	1-1/2 x 3/4 in.
	Standard Street Ell	1	WWW00J003	0.1	3/4 x 3/4 in.
	ACCESSORY EQUIPMENT (WHEN ORDERED ONLY)				
19	Gauge Assembly *	1	01840080	9	-
	Standard Ell	1	WWW00J004	0.1	1/2 x 45 in.
	Nipple, Extra Heavy	1	WWW00F012	0.1	1/2 x 6 in.
	Bushing	1	WWW00K002	0.1	1 x 1/2 in.
	Tee, 6,000 lb	1	WWW00H001	0.1	1 in.
	Nipple, Extra Heavy	1	WWW00F013	0.1	1 x 4 in.
-	Handle Extension	1	014492900	15	-

* These **should** be ordered as subassembly.

■ Stainless Steel Ball (WWT21S0SS) available upon request.

HAND PUMP PRIMING INSTRUCTIONS

1. Move Pressure Shifter "*Item 5"* to low pressure position.
2. Connect fluid supply to "*Item 14"* (oil or water).
3. Connect pressure gage and "dead head" to "*Item 13"*.
4. Remove bonnet of "*Item 14"*. Remove spring and make sure ball is free. For now leave bonnet cap off.
5. Using the palm of your hand cover the top of "*Item 14"*, move handle from low position to high position. Remove your hand.
6. Allow the handle to come down a little – see that O-ring comes out of the top of "*Item 14".* Replace the spring and bonnet and tighten. **NOTE**: Do not let the handle come down during the reassemble of *"Item 14".*
7. Open the wing nut on "*Item 13"* and on the side of the vertical cylinder.
8. Move the handle down to the bottom of its stroke, fluid and air should come out of the wing nut.
9. Close the wing nut on *"Item 13"*, move the handle to the up position.
10. Stroke down – air should come out of the cylinder wing nut. Move handle down until is it solid, close the wing nut.
11. Open the wing nut on *"Item 13"*, move the handle to the bottom of the stroke. Close the wing nut on "*Item 13"*.
12. Shift "*Item 5"* to the high pressure position, move the handle to top of stroke.
13. Open wing nut on side of cylinder, move handle down – air should bleed out the wing nut. Move handle until it is solid.
14. Pump should be primed at this point.

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