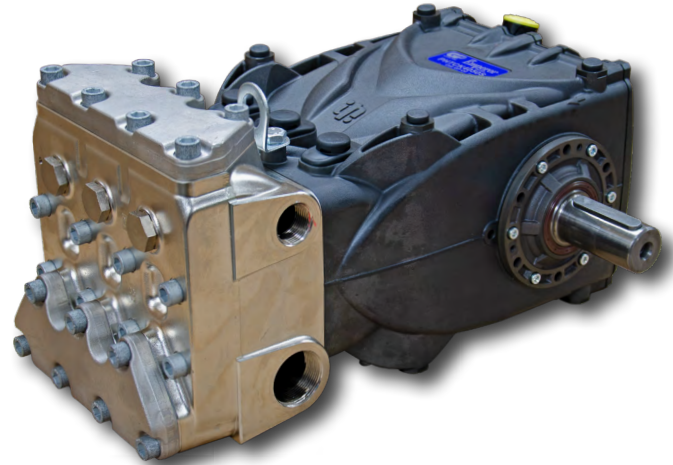


## FEATURES

- Symmetrical power end design featuring top and bottom mounting holes allowing for easy left to right conversions
- Solid Ceramic plungers
- High volumetric efficiency suction/delivery valve
- SAE-B hydraulic drive available
- Nickel-plated forged brass manifold
- Heavy-duty tapered roller bearings
- Low/High pressure packing design with integrated cooling system
- Ideal for use in car wash and other high pressure cleaning applications
- Also available with high temp seals



## SPECIFICATIONS

Pump Model	PHTCK4050S	
Maximum Volume	40.0 GPM	45.0 GPM
Maximum Pressure	1500 PSI	
Maximum RPM	800 RPM	900 RPM
Horsepower	41.1 HP	46.2 HP
Maximum Inlet Pressure	40 PSI	
Maximum Fluid Temperature	140° F	
Bore (in / mm)	1.6 in./40 mm	
Stroke (in / mm)	1.9 in./50 mm	
Oil Capacity	124.4 oz. - Use GP 220 Series Oil	
Inlet Port Thread	1-1/2"-11 NPT-F	
Discharge Port Thread	1"-11 NPT-F	
Shaft Diameter	1.9 in./40 mm	
Weight	157 lbs.	
Dimensions - Nominal	20.7" x 14.5" x 9.9"	

**Instructions and Recommendations for the Installation**

Maximum temperature of the water through the pump is 140° F (60° C).

In order to obtain maximum performance in terms of duration of seals and valves, it is necessary to respect a few simple rules, as follows:

1) **In order to avoid damage caused by cavitation, the pump must be pressure fed.**

2) **The plumbing which feeds the pump must be of a diameter at least equal to the inlet port.**

Also, follow the suggestions below:

- a) Make the plumbing as short and straight as possible, preferably in an upward direction to facilitate the expulsion of eventual air bubbles naturally if compatible with the requirements of the system.
- b) It is always useful to put a filter at the inlet with capacity of 4 to 5 times the flow of the pump, for example for a 4 gpm (15 l/min) pump, put a filter from 16 to 20 gpm (60-75 l/min). The mesh size suitable for this application is 0.016" (.4 mm).
- c) It is extremely important to put a pressure switch on the inlet port of the pump, and in any case downstream from the filter, so that it can stop the pump should the feed pressure drop by 20% due to the filter clogging or failure of the feed pump, etc.

### 3) Change of oil

We recommend the **first oil change after the first 50 hours**, with the **pump stopped** and the **oil still warm**.

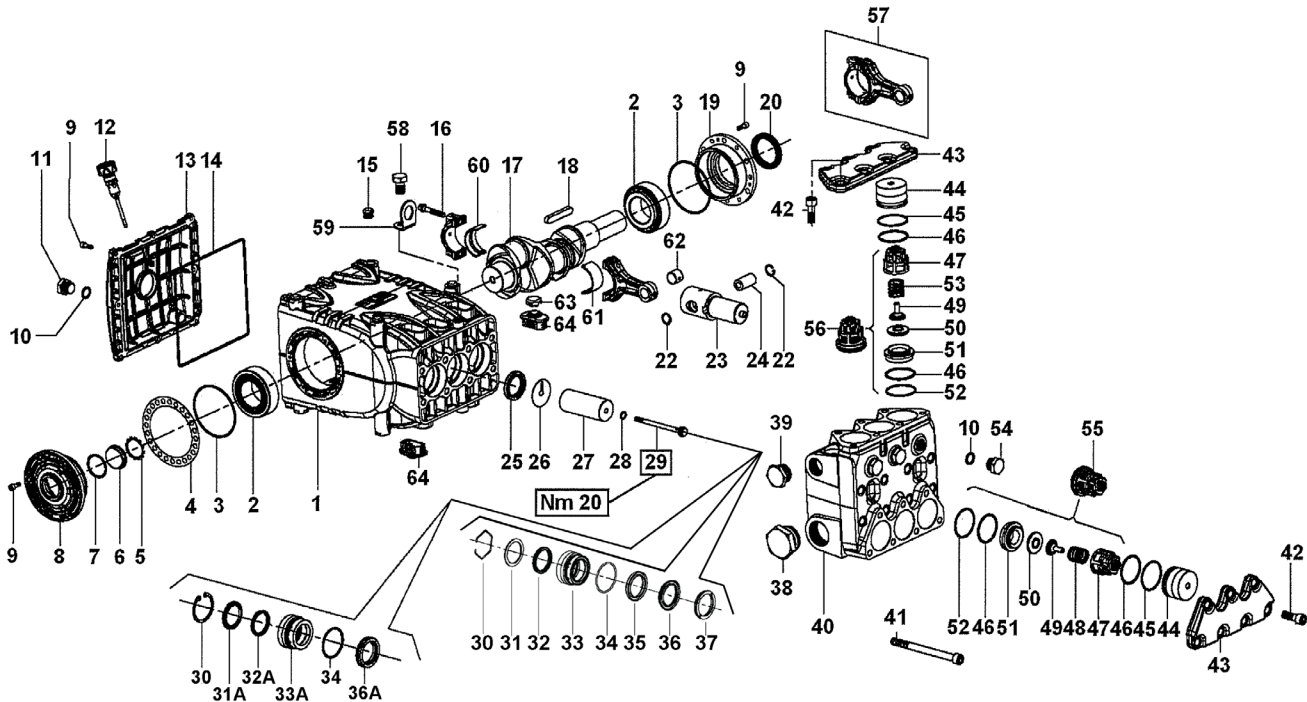
This change is not recommended because the oil has lost its properties, but rather to eliminate the impurities that have gotten into the oil during the running-in phase. If these impurities are not removed, but are allowed to remain in the oil, they *may cause premature wear* to the moving parts and the oil seals. **After this initial change, the oil can then be changed every three months or 300 hours of operation thereafter.**

Please note: If the pump works in conditions with high humidity and with sharp temperature changes, it is possible that condensation will appear inside the crankcase, which mixing with the oil can change its properties. This is easy to see because the oil changes to a white, milky color.

If the pump does not have excessive water leaking from the packings, and the oil becomes milky, the oil has to be changed more frequently. The percentage of water in the oil must not exceed 20%.

Use Oil per the following chart:

BRAND	TYPE
GENERAL PUMP	SERIES 220
BP	ENERGOL HLP 220
CASTROL	Hyspin VG220, Magna 220
MOBIL	DTE OIL BB
SHELL	TELLUS C 220
TOTAL	CORTIS 220



**PARTS LIST**

No.	Part No.	Description	QTY.	No.	Part No.	Description	QTY.	No.	Part No.	Description	QTY.
1	71010022	Crankcase	1	26	96714000	Flinger Washer	3	46	90388900	O-ring	12
2	91859000	Bearing, Tapered Roller	2	27	71040509	Plunger, 40 mm	3	47	36208505	Valve Guide	6
3	90391800	O-ring	2	28	90367100	O-ring	3	48	94754000	Spring, Outlet	3
4	71220081	Shim, 0.1 mm	1	29	71219566	Plunger Bolt	3	49	36208651	Valve, Guide	6
	71220381	Shim, 0.25 mm	1	30	F90079700	Circlip	3	50	36208502	Valve, Spherical	6
5	90075600	Retainer	1	31	F71218270	Ring, Seal, Ø40	3	51	36204156	Valve, Seat	6
6	70211801	Oil Level Indicator	1	31A	71218970	Ring, Seal, Ø40	3	52	90524000	Anti-extrusion Ring	6
7	90387700	O-ring	1	32	F90282800	Seal, L.P., Ø40x48x5.5	3	53	94755000	Spring, Ø 25.2 x 26	3
8	71150122	Side Cover, Sight Glass	1	32A	90245000	Seal, L.P., 40mm High Temp	3	54	98218300	Plug, G1/2" x 13	3
9	99186700	Screw, M6 x 18	20	33	F71215570	Support Gasket, Ø40	3	55	36713601	Valve Assy., Inlet	3
10	701115	O-ring	4	33A	71216670	Support Gasket, Ø40 High Temp	3	56	36713701	Valve Assy., Outlet	3
11	98218300	Plug, 1/2"G, Nickel Plated	4	34	90389100	O-ring, Ø52.07x2.62	3	57	71030701	Connecting Rod	3
12	98212000	Oil Dipstick	1	35	F90283800	Ring, Restop, Ø40x55x8	3	58	99512000	Screw, M1 x 1.5 x 25	1
13	71160022	Crankcase Cover, Rear	1	36	F90283200	Packing, H.P., Ø40x55x7.5	3	59	71223074	Bracket	1
14	90400000	O-ring	1	36A	90276000	Packing, H.P., Ø40mm, High Temp	3	60	90924300	Babbit, Back	3
15	98206000	Rubber Plug	7	37	F71100351	Ring, Front, Ø40	3		90924400	Babbit, Back, +0.25	3
16	99313800	Screw	6	38	638298	Plug 1-1/2" NPT, SS, Opt.	1		90924500	Babbit, Back, +0.50	3
17	71020035	Crankshaft	1	39	638295	Plug, 1" NPT, SS, Opt.	1	61	90924000	Babbit, Front	3
18	91500000	Key	1	40	71123341	Manifold, Nickel Plated, NPT	1		90924100	Babbit, Front, +0.25	3
19	71150022	Crankcase Cover, Open	1	41	99448000	Screw, M12 x 150	8		90924200	Babbit, Front, +0.50	3
20	90170000	Crankcase Oil Seal	1	42	99429500	Screw, M12 x 35	14	63	71225951	Plug, Cover, Crankcase	3
22	90060600	Circlip	6	43	71210136	Valve Cover	2	64	71225851	Plug, Crank Case	6
23	71050015	Plunger Guide	3	44	71211170	Plug	6		HT150RCK	Rail Conversion Kit	
24	97743000	Wrist Pin	3	45	90525000	Anti-Extrusion Ring	6				
25	90167800	Plunger Rod Oil Seal	3								

**REPAIR KITS**

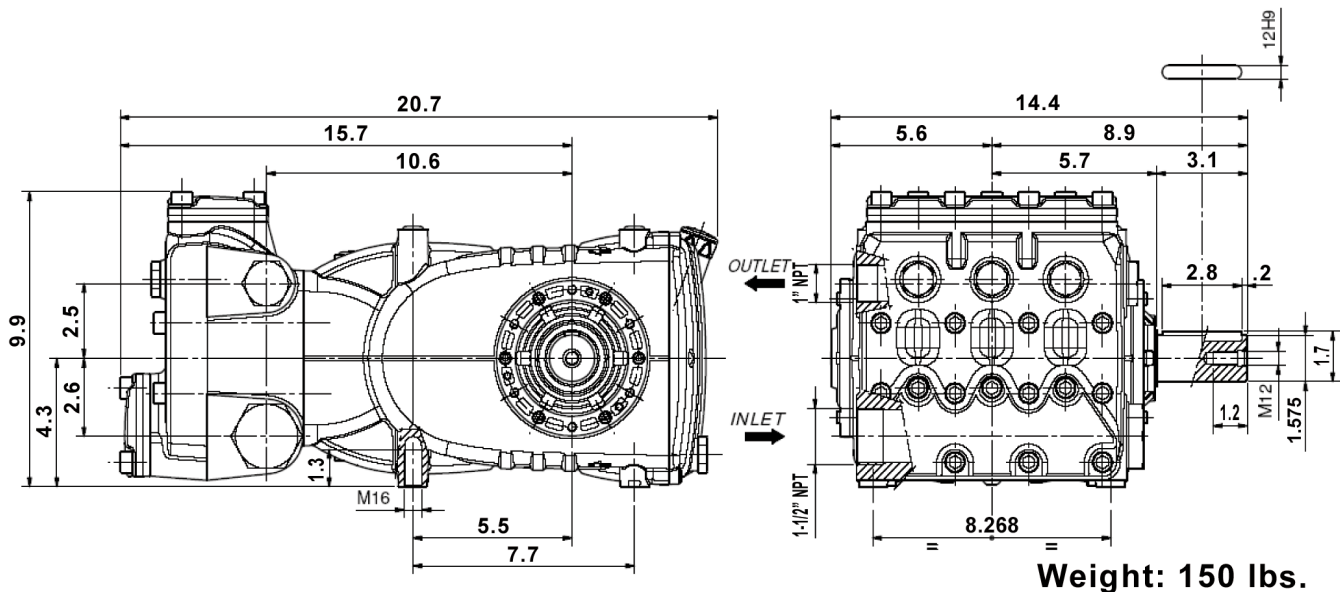
KIT NO.	K2012 Inlet Valve Kit	K2013 Outlet Valve Kit	High Temp Opt.		F2020 Seal Kit	K2035 Complete Packing kit
			K2033 Seal Kit	K2034 Packing Kit		
ITEM NO'S INCLUDED IN KIT	46, 47, 48, 49 50, 51, 52 (55)	46, 47, 49, 50, 51, 52, 53 (56)	32A, 35A	30, 31A, 32A, 33A, 34, 36A	32, 34, 35, 36	30, 31, 32, 33, 34, 35, 36, 37
NUMBER OF ASSY'S IN KIT	3	3	3	1	3	3 kits needed for pump
NO. OF CYLINDERS KIT SERVICES	3	3	3	1	3	

**TORQUE SPECS\***

Position	Ft.-Lbs.	Nm.
9	7.4	10
11	29.5	40
16	22	30
29**	14.7	20
36	110.6	150
38	110.6	150
41	59.0	80
42	88.5	120
54	29.5	40
58	29.5	40

\*Decrease torque by 20% if threads are lubricated.  
 \*\*Use Loctite 542.

**DIMENSIONS**



**WARNING: High Pressure Systems require a primary pressure regulating device (i.e. regulator, unloader) and a secondary pressure relief device (i.e. pop-off valve, relief valve). Failure to install such relief devices properly could result in personal injury or damage to pump or property. GP does not assume any liability or responsibility for the operation of the user's high pressure system.**

 **WARNING:** This product can expose you to chemicals including lead, which is known to the state of California to cause cancer and birth defects or other reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)