



FEATURES

- Features patented “high tech” packings:
 - dynamic low-pressure seal retainer
 - superior low-pressure seal
 - innovative intermediate ring
 - superior high-pressure seal
- Ceramic plungers
- Patent-pending inlet/outlet valve cage
- Nickel-plated forged brass manifold
- Heavy-duty tapered roller bearings
- Specifically designed to handle rigorous duty cycles, high temperatures and chemicals
- Ideal for use in car wash and other high pressure cleaning applications



SPECIFICATIONS

Pump Model	HTCK3623S		
Maximum Volume	18.0 GPM	21.0 GPM	25.0 GPM
Maximum Pressure	1500 PSI		1,300 PSI
Maximum RPM	1000 RPM	1150 RPM	1350 RPM
Horsepower	18.5 HP	22.0 HP	22.3 HP
Maximum Inlet Pressure	125 PSI		
Minimum Inlet Pressure	3 ft. water (2.6 in. Hg)		
Maximum Fluid Temperature	185° F		
Bore (in / mm)	1.4 in./36mm		
Stroke (in / mm)	.9 in./ 23 mm		
Oil Capacity	64.2 oz. - Use GP 220 Series Oil		
Inlet Port Thread	1" NPT-F		
Discharge Port Thread	1/2" NPT-F		
Shaft Diameter	1.181 in./30 mm		
Weight	79.6 lbs.		
Dimensions - Nominal	15.3" x 13.4" x 7.7"		

EMPEROR

EMPEROR

Instructions and Recommendations for the Installation of *HT Series Pumps*

The high-temperature pumps of the HT series have been designed for use in applications where the water must be pre-heated, such as in carwash, food and pharmaceutical industries.

Maximum temperature of the water through the pump is 185°F (85°C).

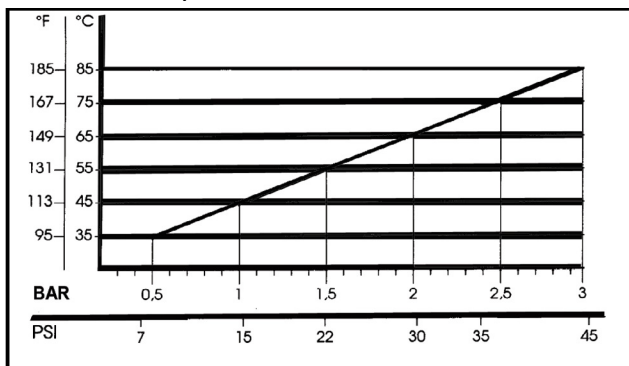
In order to obtain maximum performance in terms of duration of seals and valves, it is necessary to respect a few simple rules, as follows:

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

The higher the inlet pressure, the longer the life of the wet end of the pump.

When working at 185°F (85°C), the minimum feed pressure - measured directly in the inlet port of the pump when it is working - is 45 psi (3 bar).

The minimum feed pressure according to the different temperatures are:



Naturally, if the application allows for feeding the pump with 45 psi (3 bar) even at low temperatures (for example: 115°F/45°C the life of the wet end of the pump will be even longer.

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 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 suction 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**.

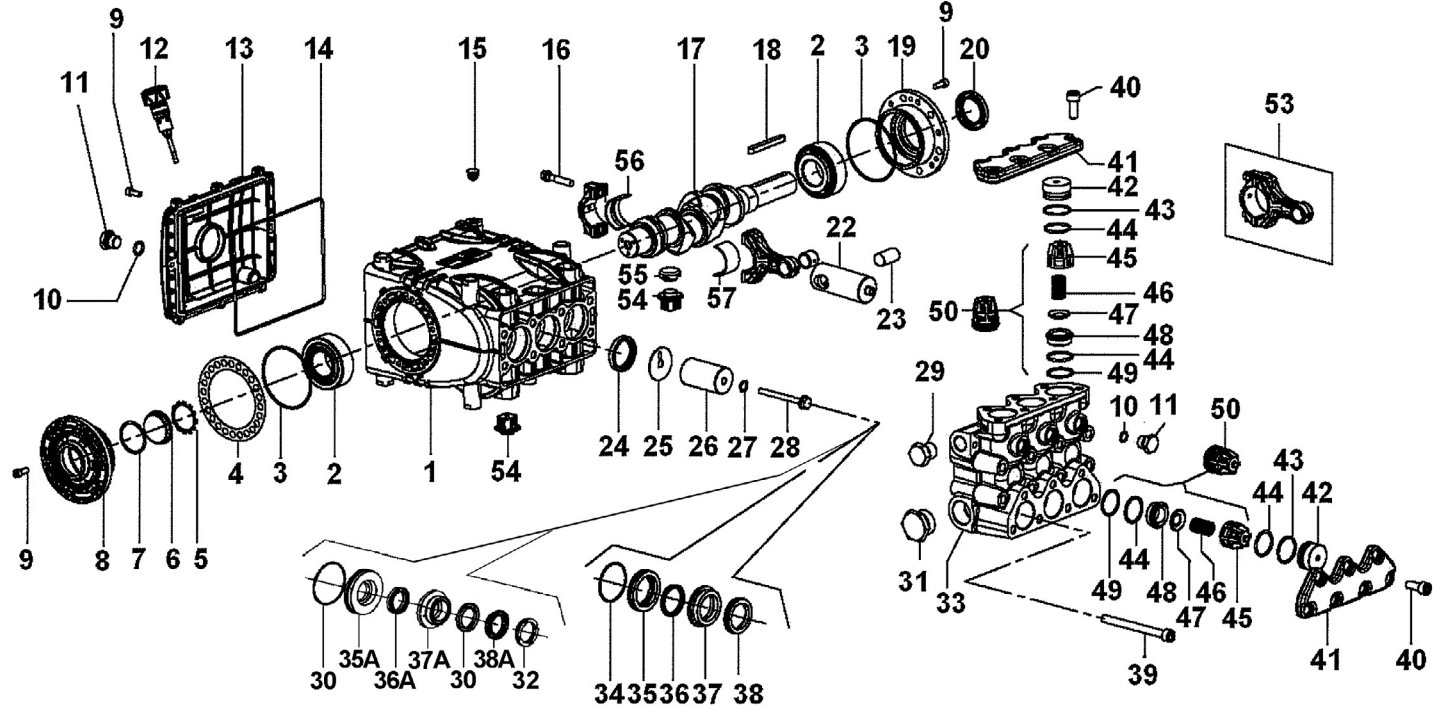
This change is not recommended because the oil has lost its properties, but rather to eliminate the impurities that have gotten into the oil during the running-in phase. If these impurities are not removed, but are allowed to remain in the oil, they may cause premature wear to the moving parts and the 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	70010022	Crankcase	1	23	97742000	Wrist Pin	3	41	70222341	Valve Cover	2
2	91847700	Bearing, Tapered Roller	2	24	90167700	Plunger Rod Oil Seal	3	12	70211670	Plug	6
3	F90391500	O-ring	2	25	96709900	Flinger Washer	3	43	F90518000	Anti-extrusion Ring	6
4	70220081	Shim, 0.1 mm	1	26	70040509	Plunger, 36 mm	3	44	90386500	O-ring	12
	70220381	Shim, 0.25 mm	1	27	90358400	O-ring	3	45	36204751	Valve Guide	6
5	90075600	Retainer	1	28	70224111	Plunger Bolt	3	46	94745000	Valve Spring	6
6	70211801	Oil Level Indicator	1	29	638294	Plug, 1/2" NPT, SS Opt.	1	47	36201076	Valve Poppet	6
7	90387700	O-ring	1	30	F90281800	Restop Ring, Ø36		48	F36204866	Valve Seat	6
8	70150122	Side Cover, Sight Glass	1	31	638297	Plug, 1" NPT, SS Opt.	1	49	F90517800	Anti-extrusion Ring	6
9	99185400	Screw M6 x 16	20	32	F71100251	Front Ring, Ø36		50	36714301	Valve Assy	6
10	90383300	O-ring	4	33	70122441	Manifold, Nickel-plated, 36mm, NPT	1	53	70030501	Connecting Rod Assy.	3
11	98209900	Plug, 3/8" G Nickel-plated	4	34	F90362600	O-ring, Ø50.52 x 1.78	3	54	70222551	Plug, Crankcase	6
12	98211500	Oil Dipstick	1	35	70080570	Seal Retainer, 36 mm	3	55	71225951	Plug Cover, Crankcase	3
13	70160022	Crankcase Cover, Rear	1	35A	F70081270	Seal Retainer, 36 mm	3		90922300	Babbit, Back	3
14	90394200	O-ring	1	36	F90240000	L.P Seal, 36 mm	3	56	90922400	Babbit, Back +0.25	3
15	98200500	Rubber Plug	7	36A	F90279800	L.P Seal, 36 mm	3		90922500	Babbit, Back +0.50	3
16	99312300	Screw	6	37	70216570	Intermediate Ring, 36 mm	3		90922000	Babbit, Front	3
17	70020035	Crankcase	1	37A	F70222470	Intermediate Ring, 36 mm	3	57	90922100	Babbit, Front +0.25	3
18	91490000	Key	1	38	90241000	H.P. Seal, 36 mm	3		90922200	Babbit, Front +0.50	3
19	70150022	Crankcase Cover, Open	1	38A	90282000	H.P. Seal, 36 mm	3		HT125RCK	Rail Kit	1
20	90166800	Crankshaft Oil Seal	1	39	99381600	Screw, M10 x 110	8		99426600	Bolt, M12-1.75 x 25 mm	4
22	70050015	Plunger Guide	6	40	99367100	Screw, M10 x 25	14		96719500	Serrated Washer, M12	4

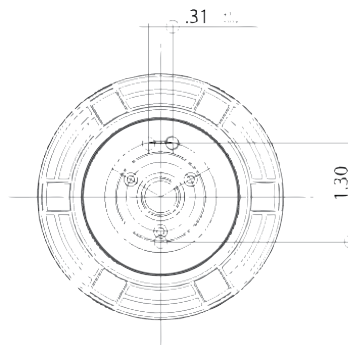
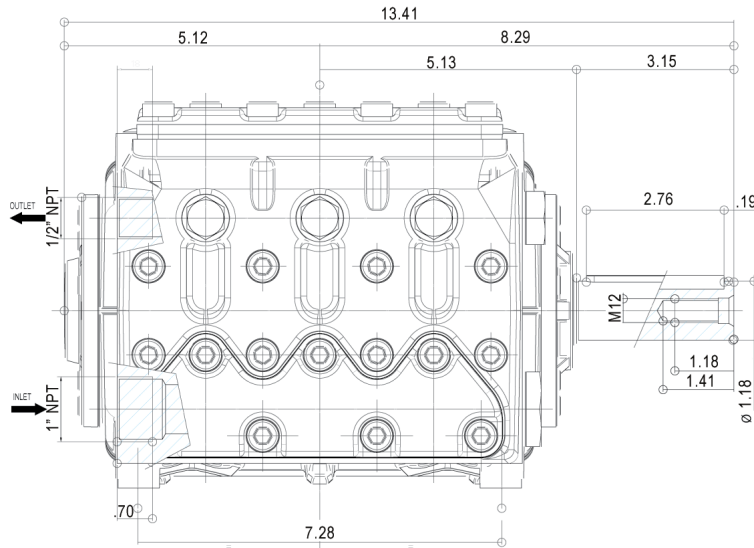
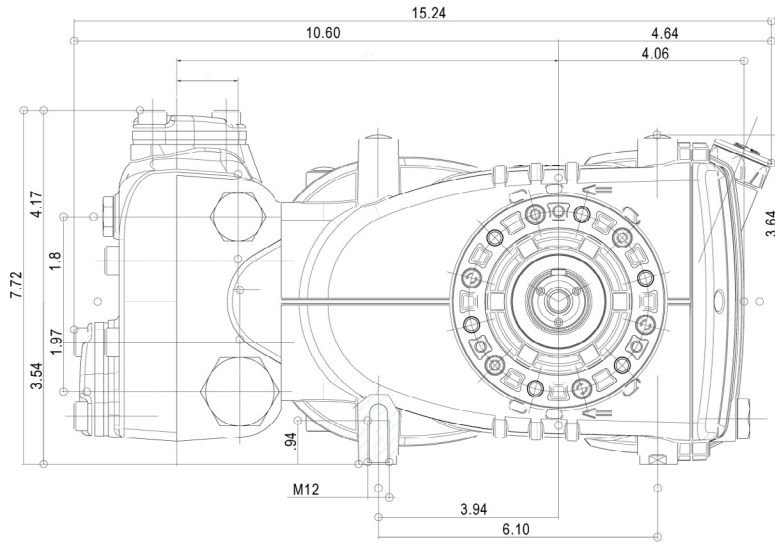
REPAIR KITS

KIT NO.	K2030 Valve Kit	K212 Seal Kit	K2032 Packing Kit	K2133 Seal Kit	K2036 Complete Packing Kit	F2156 Babbit Kit	F2157 Babbit Kit +0.25	F2158 Babbit Kit +0.50
ITEM NO'S INCLUDED IN KIT	44, 45, 46, 47, 48, 49, (50)	36, 38	34, 35, 36, 37, 38	30, 34, 36A, 38A	30, 32, 34, 35A, 37A, 38A	56, 57	56, 57	56, 57
NUMBER OF ASSY'S IN KIT	6	3	1	3	3 kits needed for pump	3	3	3
NO. OF CYLINDERS KIT SERVICES	3	3	1	3		3	3	3

TORQUE SPECS*

Position	Ft.-Lbs.	Nm.
9	7.4	10
11	29.5	40
16	22.0	30
28**	14.7	20
29	88.5	120
31	73.7	100
39	29.5	40
40	59.0	80

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