

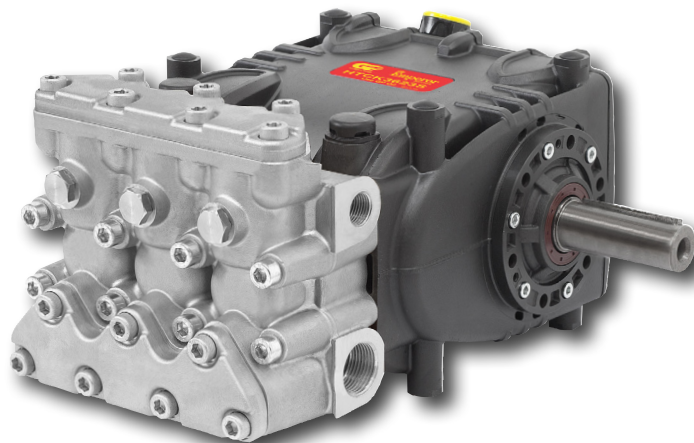


# Emperor

*Pumps That Rule Any Environment*

## 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		
Max Volume	18.0 GPM	21.0 GPM	25.0 GPM
Max Pressure	1500 PSI		1,300 PSI
Max RPM	1000 RPM	1150 RPM	1350 RPM
Horsepower	18.5 HP	22.0 HP	22.3 HP
Inlet Pressures	Flooded to 70 PSI		
Max 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"		



General Pump  
is a member of  
the Interpump Group



Ref 300609 Rev. P  
11-24



# 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 preheated, such as in car wash, 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.**

Note: Contact General Pump's technical sales department for guidance when operating the pump outside of the related inlet specs.

- 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 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**.

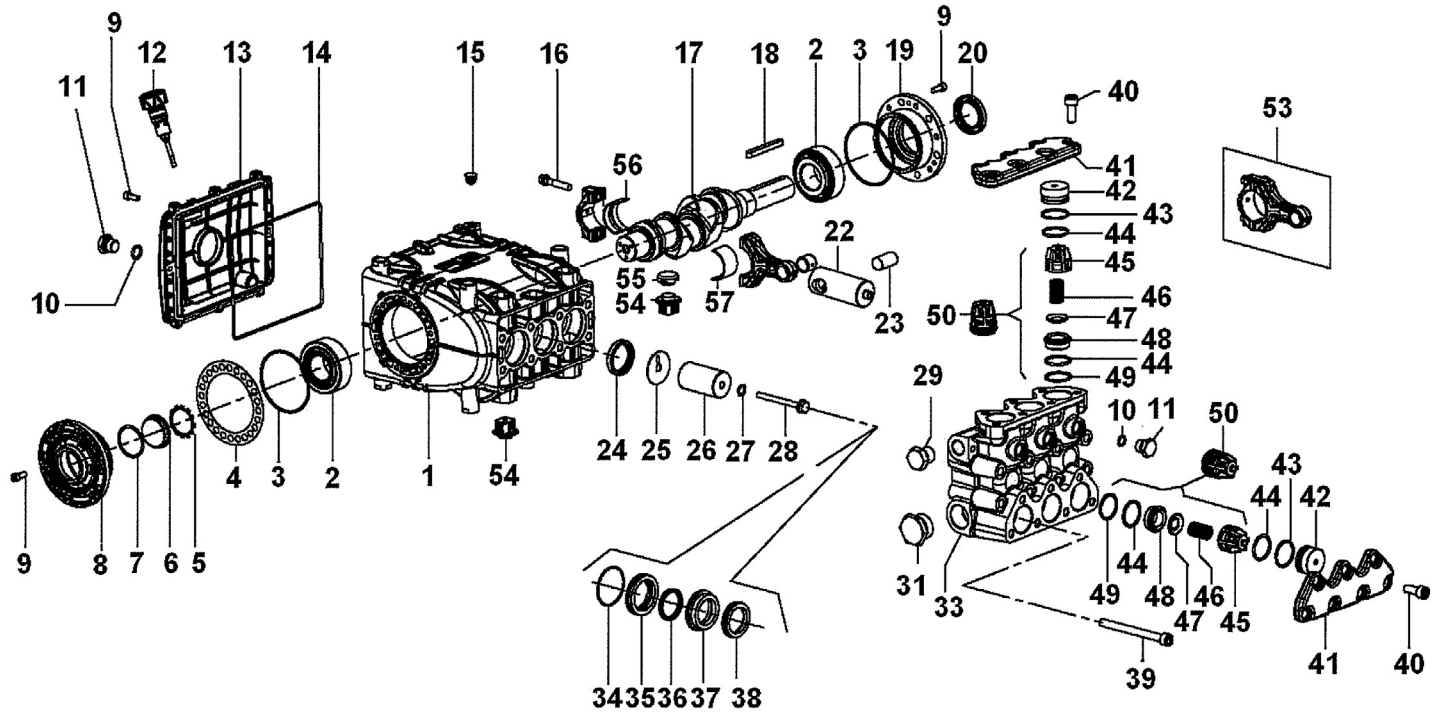
This change is not recommended because the oil has lost its properties, but rather to eliminate the impurities that have gotten into the oil during the running-in phase. If these impurities are not removed, but are allowed to remain in the oil, they *may cause premature wear* to the moving parts and 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:

CHART OF COMPATIBLE OILS	
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
1	70010022	Crankcase	1
2	91847700	Bearing, Tapered Roller	2
3	F90391500	O-ring	2
4	70220081	Shim, 0.1 mm	1
5	70220381	Shim, 0.25 mm	1
6	90075600	Retainer	1
7	70211801	Oil Level Indicator	1
8	90387700	O-ring	1
9	70150122	Side Cover, Sight Glass	1
10	99185400	Screw M6 x 16	20
11	90383300	O-ring	4
12	98209900	Plug, 3/8" G Nickel-plated	1
13	98211500	Oil Dipstick	1
14	70160022	Crankcase Cover, Rear	1
15	90394200	O-ring	1
16	98200500	Rubber Plug	7
17	99312300	Screw	6
18	70020035	Crankcase	1
19	91490000	Key	1
20	70150022	Crankcase Cover, Open	1
21	90166800	Crankshaft Oil Seal	1

No.	Part No.	Description	Qty
22	70050015	Plunger Guide	6
23	97742000	Wrist Pin	3
24	90167700	Plunger Rod Oil Seal	3
25	96709900	Flinger Washer	3
26	70040509	Plunger, 36 mm	3
27	90358400	O-ring	3
28	70224111	Plunger Bolt	3
29	638294	Plug, 1/2" NPT, SS Opt.	1
30	F90281800	Restop Ring, Ø36	
31	638297	Plug, 1" NPT, SS Opt.	1
32	F71100251	Front Ring, Ø36	
33	70122441	Manifold, Nickel-plated, 36mm, NPT	1
34	F90362600	O-ring, Ø50.52 x 1.78	3
35	70080570	Seal Retainer, 36 mm	3
36	F90240000	L.P Seal, 36 mm	3
37	70216570	Intermediate Ring, 36 mm	3
38	90241000	H.P. Seal, 36 mm	3
39	99381600	Screw, M10 x 110	8
40	99367100	Screw, M10 x 25	14
41	70222341	Valve Cover	2
42	70211670	Plug	6

No.	Part No.	Description	Qty
43	F90518000	Anti-extrusion Ring	6
44	90386500	O-ring	12
45	36204751	Valve Guide	6
46	94745000	Valve Spring	6
47	36201076	Valve Poppet	6
48	F36204866	Valve Seat	6
49	F90517800	Anti-extrusion Ring	6
50	36714301	Valve Assy	6
51	70030501	Connecting Rod Assy.	3
52	70222551	Plug, Crankcase	6
53	71225951	Plug Cover, Crankcase	3
54	90922300	Babbitt, Back	3
55	90922400	Babbitt, Back +0.25	3
56	90922500	Babbitt, Back +0.50	3
57	90922000	Babbitt, Front	3
58	90922100	Babbitt, Front +0.25	3
59	90922200	Babbitt, Front +0.50	3
60	HT125RCK	Rail Kit	1
61	99426600	Bolt, M12-1.75 x 25 mm	4
62	96719500	Serrated Washer, M12	4

## REPAIR KITS

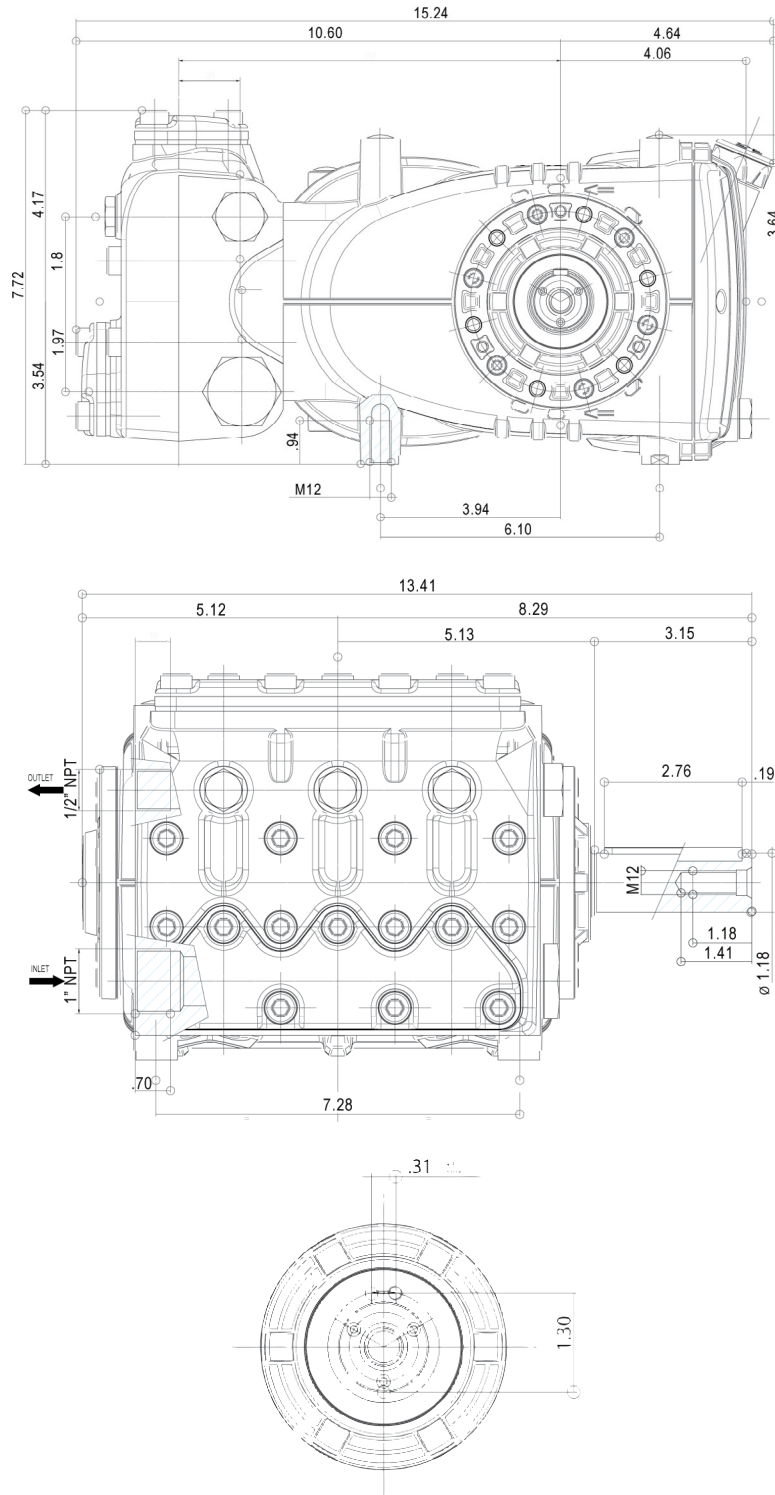
KIT NO.	K2030 Valve Kit	K212 Seal Kit	K2032 Packing Kit	F2156 Babbitt Kit	F2157 Babbitt Kit +0.25	F2158 Babbitt Kit +0.50
ITEM NO'S INCLUDED IN KIT	44, 45, 46, 47, 48, 49, (50)	36, 38	34, 35, 36, 37, 38	56, 57	56, 57	56, 57
NUMBER OF ASSY'S IN KIT	6	3	1	3	3	3
NO. OF CYLINDERS KIT SERVICES	3	3	1	3	3	3

## 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

\*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)