

FEATURES

- “HR” anti-corrosion surface treatment on manifold
- New generation seal package
- Dust protection chamber
- Solid ceramic plungers
- Oversized plunger guide
- Optimized inlet and outlet valves
- Oversized crankcase

**SPECIFICATIONS**

Pump Model	ET1305S34	ET1306S34	ET1307S34	ET1308S34	ET1309S34	ET1310S34	ET1311S34	ET1312S34
Maximum Volume	1.6 GPM	1.9 GPM	2.1 GPM	2.4 GPM	2.6 GPM	2.9 GPM	3.1 FPM	3.4 GPM
Maximum Discharge Pressure	4,450 PSI							
Horsepower	4.8 EBHP	5.6 EBHP	6.4 EBHP	7.2 EBHP	8.1 EBHP	8.9 EBHP	9.7 EBHP	10.5 EBHP
Maximum Pump Speed	3400 RPM							
Maximum Inlet Pressure	125 PSI							
Max. Inlet Vacuum	Flooded							
Plunger Bore (in / mm)	.512 in./13 mm							
Plunger Stroke (in / mm)	.197 in./5 mm	.256 in./6.5 mm	.283 in./7.2 mm	.315 in./8 mm	.354 in./9 mm	.394 in./10 mm	.433 in./11 mm	.453 in./11.5 mm
Oil Capacity	8.5 oz.							
Maximum Fluid Temperature	165° F							
Inlet Port Thread	1/2"-14 BSP-F							
Discharge Port Thread	3/8"-19 BSP-F							
Shaft Diameter	.945 in./24 mm							
Weight	11.0 lbs.							
Dimensions - Nominal	8" x 7.4" x 4.7"							



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

Maximum temperature of the water through the pump is 165°F (73°C).

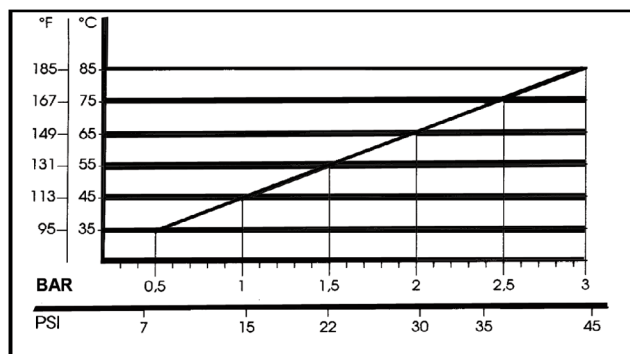
In order to obtain maximum performance in terms of duration of seals and valves, it is necessary to respect a few simple rules, as follows:

- 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 165°F (73°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 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**.

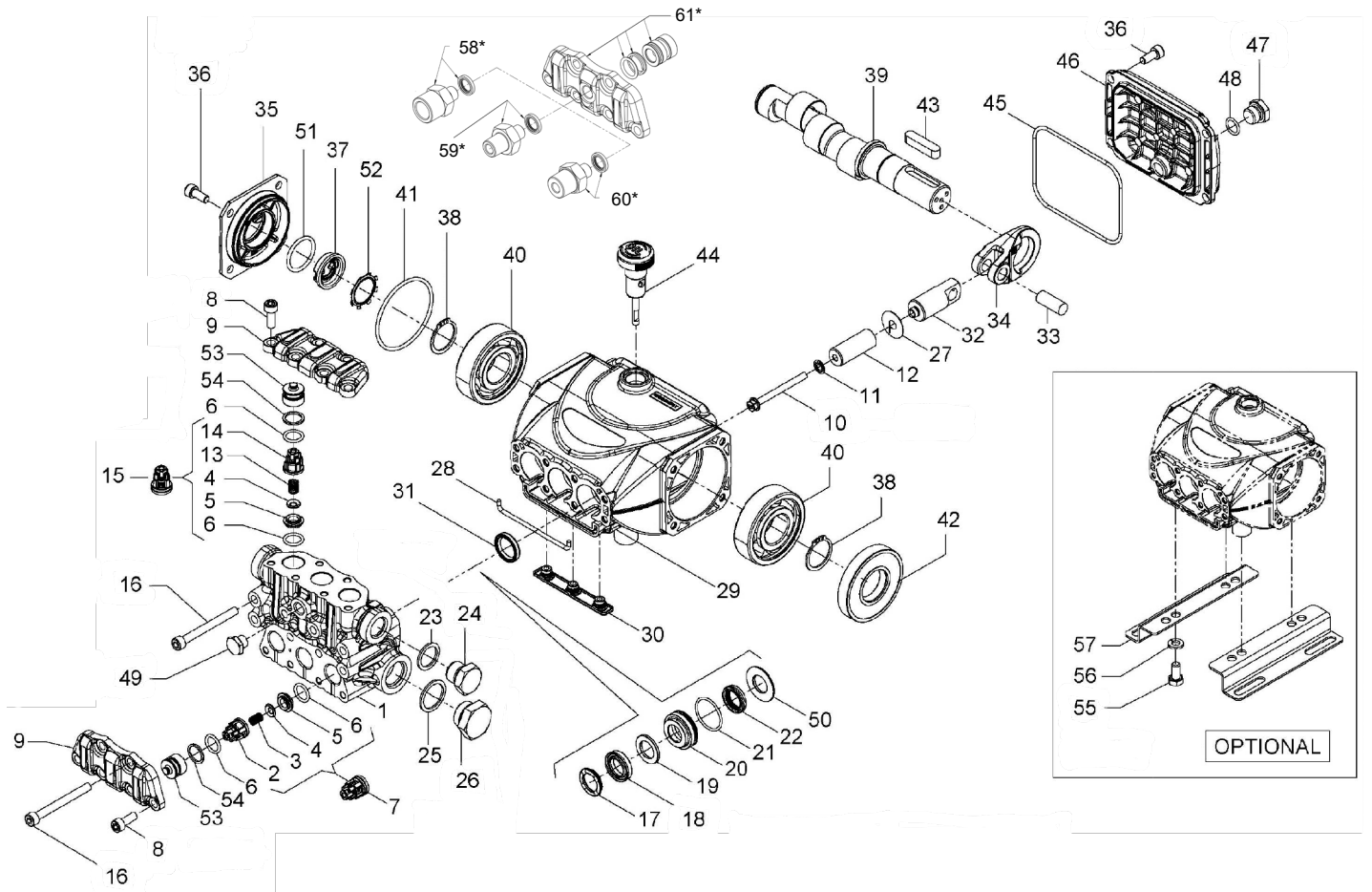
This change is not recommended because the oil has lost its properties, but rather to eliminate the impurities that have gotten into the oil during the running-in phase. If these impurities are not removed, but are allowed to remain in the oil, they *may cause premature wear* to the moving parts and 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 SAE15W40	
General Pump	Series 100
BP	VISCO 2000
CASTROL	CWX
MOBIL	SUPER
SHELL	HELIX SUPER
TOTAL	QUARTZ 4000-5000



PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.	53122015	Manifold, Ø 13	1	27.	96699000	Gasket, Ø 7.5x23x0.5	3		60021735	Crankshaft, 11.5 mm	1
2.	36211951	Inlet Valve Guide	3	28.	53210382	Gasket, Ø3x85	1		(ET1312S34)		
3.	94732600	Spring, Ø 6x12	3	29.	53010022	Crankcase	1	40.	91833100	Bearing, Premium	2
4.	36211276	Valve, Spherical	6	30.	58210451	Drip Cover	1	41.	90389800	O-ring Ø 56.82x2.62	1
5.	36211366	Valve Seat	6	31.	90159300	Oil Seal, Ø 18x24x4.4	3	42.	90164100	Oil Seal, Ø 25x62x10	1
6.	90367400	O-ring, Ø12.00x2.00	12	32.	53050066	Piston Guide	3	43.	91489200	Key, 8x7x35	1
7.	36722401	Valve Assembly	3	33.	97733800	Piston Pin, Ø 10x26.5	3	44.	98210800	Oil Dipstick	1
8.	99185400	Screw, Mx16	10	34.	53030022	Connecting Rod	3	45.	90391700	O-ring, Ø 88.57X2.62	1
9.	53211815	Valve Cover	2	35.	53150022	Crankcase Side Cover	1	46.	53160022	Rear Cover	1
10.	99169000	Plunger Bolt, M5x55	3	36.	99183700	Screw, M4x14	8	47.	98204250	Plug, 1/4"x9	1
11.	96690500	Washer, Ø 5x11.5x0.4	3	37.	53210851	Oil Sight Glass	1	48.	701013	O-ring, Ø 10.82x1.78	1
12.	63040609	Plunger, Ø 13x42	3	38.	90063500	Stop Ring, A25	2	49.	98196800	Plug, 1/8"x8	1
13.	94733300	Spring, Ø 6.2x10.4	3	39.	60020265	Crankshaft, 5 mm	1	50.	53210570	Support Ring, Ø13	3
14.	36211151	Outlet Valve Cage Guide	3		(ET1305S34)			51.	90385900	O-ring, Ø 25.07x2.62	1
15.	36719301	Complete Outlet Valve	3		60020465	Crankshaft, 6 mm	1	52.	90067100	Stop Ring	1
16.	99199600	Screw, M6x70	8		(ET1306S34)			53.	53211970	Inlet/Outlet Valve Cap	6
17.	44100251	Head Ring, Ø 13	3		60020765	Crankshaft, 7.2 mm	1	54.	90509300	Ring, Ø 16.4x13.2x1.3	6
18.	90260200	Packing, Ø 13, HP	3		(ET1307S34)			55.	99303700	Screw, M8x16	4
19.	90507650	Anti-ext. Ring, Ø 13	3		60020965	Crankshaft, 8 mm	1	56.	96701600	Washer, Ø 8.4x14.4x2.0	4
20.	53210470	Support Ring, Ø 13	3		(ET1308S34)			57.	50200074	Pump Foot	2
21.	90360400	O-ring, 25.12x1.78	3		60028535	Crankshaft, 9 mm	1	58.*	101162	Kit, ADTR, 1/4"-F, SS, W/Seal	1
22.	90260100	Packing, Ø 13, LP	3		(ET1309S34)			59.*	101157	Kit, ADTR, 1/4"-M, SS, W/Seal	1
23.	93738000	Washer, Ø17.5x23x1.5	1		60028335	Crankshaft, 10 mm	1	60.*	101158	Kit, ADTR, 3/8"-K, SS, W/Seal	1
24.	98210050	Plug, 3/8"x13	1		(E1310S34)			61.*	K423	Kit, Tapped Valve Plate	1
25.	96751400	Washer	1		60028435	Crankshaft, 11 mm	1		W/ Valve Spacer & Seals		
26.	98218700	Plug, 1/2" BSPx10	1		(ET1311S34)						

* Optional Parts

** 53150001 Oil Level Indicator Assembled W/O Screws and O-ring

REPAIR KITS

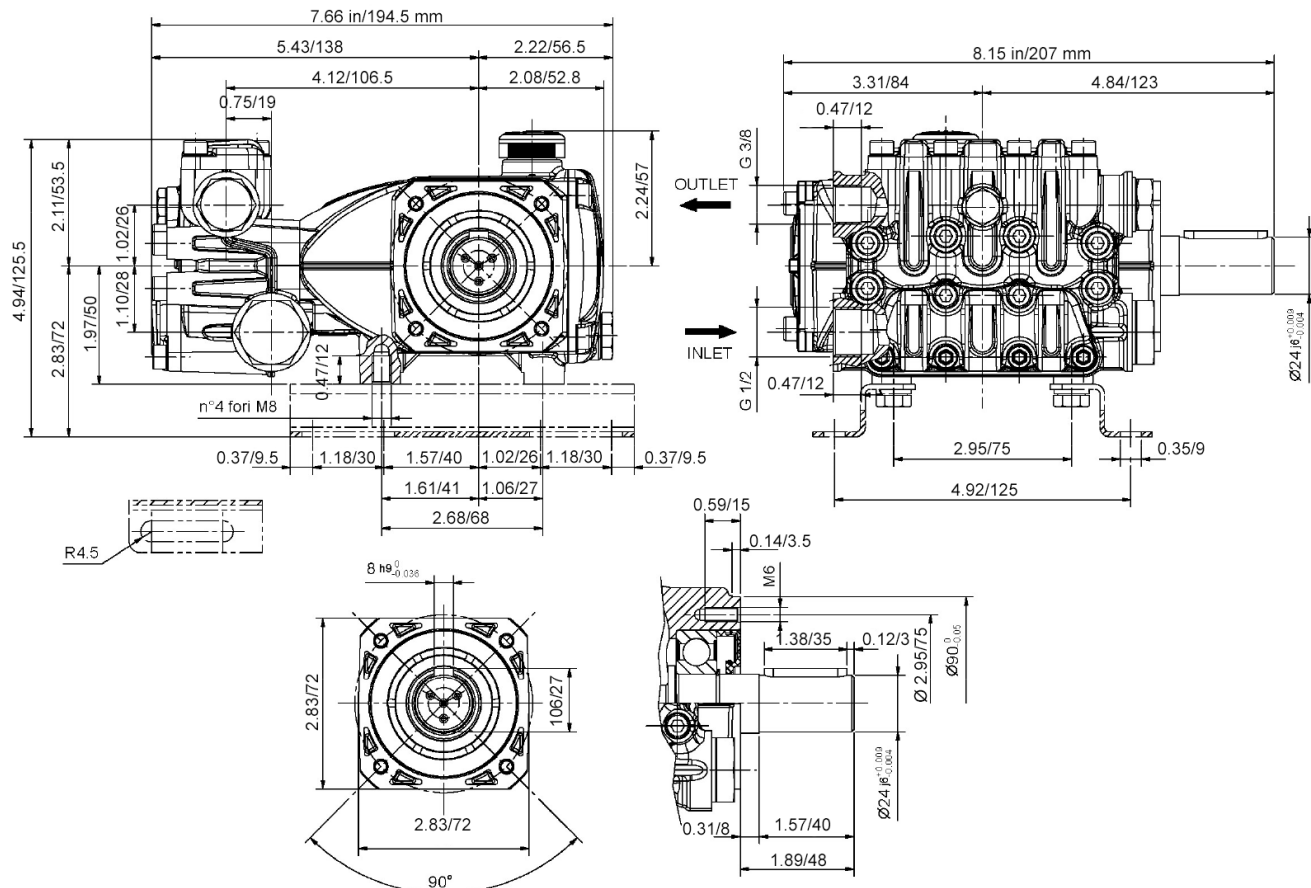
KIT NO.	K309	K311	Ø 13	
			K318	K319
ITEM NO'S INCLUDED IN KIT	2, 3, 4, 5, 6, 13, 14, (7), (15)	31	17, 18, 19, 21, 22	17, 19, 19, 20, 21, 22, 50
NUMBER OF ASSY'S IN KIT	6	3	3	1
NO. OF CYLINDERS KIT SERVICES	3	3	3	1

TORQUE SPECS*

Position	Ft.-Lbs.	Nm.
8	8.9	12
10	4.4	6
16	8.9	12
24**	30	40
26	30	40
36	7.4	10
47	14.8	20
49**	9.6	13

*Decrease torque by 20% if threads are lubricated.

**Use Loctite 542 Red

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.