

FEATURES

- Durable forged brass manifold
- Dust protection chamber
- Solid ceramic plungers
- Advanced plunger mounting system
- Valve cover for ease of service

**SPECIFICATIONS**

Pump Model	ETB1509S17	ETB1511S17	ETB1809S17	ETB1811S17
Maximum Volume	2.1 GPM	2.6 GPM	3.2 GPM	3.7 GPM
Maximum Discharge Pressure	2,610 PSI		2,320 PSI	
Horsepower	3.7 EBHP	4.7 EBHP	5.0 EBHP	5.98 EBHP
Maximum Pump Speed	1750 RPM			
Maximum Inlet Pressure	125 PSI			
Max. Inlet Vacuum	3 ft. water (2.6 Hg)			
Plunger Bore (in / mm)	.591 in./15 mm	.591 in./15 mm	.708 in./18 mm	.708 in./18 mm
Plunger Stroke (in / mm)	.370 in./9.4 mm	.452 in./11.5 mm	.370 in./9.4 mm	.433 in./11 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 *ETB Series Pumps*

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

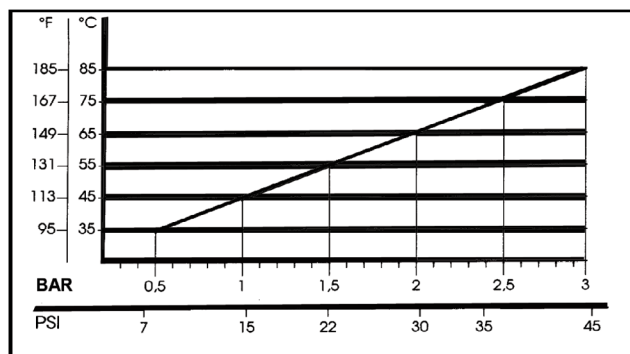
In order to obtain maximum performance in terms of duration of seals and valves, it is necessary to respect a few simple rules, as follows:

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**.

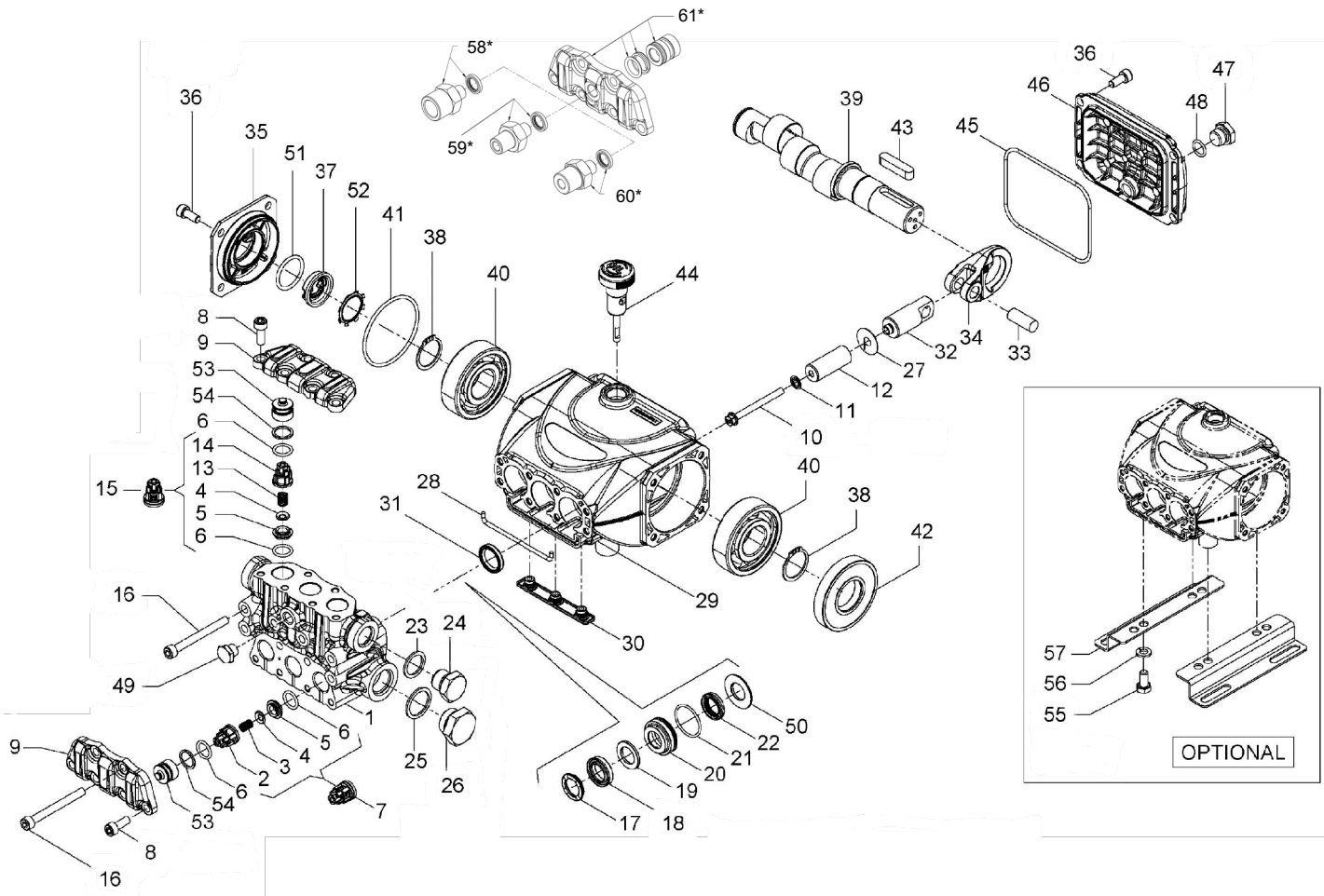
This change is not recommended because the oil has lost its properties, but rather to eliminate the impurities that have gotten into the oil during the running-in phase. If these impurities are not removed, but are allowed to remain in the oil, they *may cause premature wear* to the moving parts and 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.	53122941	Manifold, Ø 15	1					60021735	Crankshaft, 11 mm		1
	53123041	Manifold, Ø 18	1	20.	53210170	Support Ring, Ø 15	3		(ETB1511S17, ETB1811S17)		
2.	36211951	Inlet Valve Guide	3		53210270	Support Ring, Ø 18	3	40.	91832800	Bearing, Premium	2
3.	94732600	Spring, Ø 6x12	3	21.	90360400	O-ring, 25.12x1.78	3	41.	90389800	O-ring, Ø 56.82x2.62	1
4.	36211276	Valve, Spherical	6	22.	90260800	Packing, Ø 15, LP	3	42.	90164100	Oil Seal, Ø 25x62x10	1
5.	36211366	Valve Seat	12		90265000	Packing, Ø 18, LP	3	43.	91489200	Key, 8x7x35	1
6.	90367400	O-ring, Ø12.0x2.0	6		710030	Packing, Ø 15, LP	3	44.	98210800	Oil Dipstick	1
7.	36722401	Valve Assembly	3			(K312H, K313H)		45.	90391700	O-ring, Ø 88.57X2.62	1
8.	99186700	Screw, M8x16	14	23.	96738000	Washer, Ø17.5x23x1.5	1	46.	53160022	Rear Cover	1
9.	53212015	Valve Cover	2	24.	98210000	Plug, 3/8"x13	1	47.	98204250	Plug, 1/4"x9	1
10.	99169000	Plunger Bolt, M5x55	3	25.	96751400	Washer, Ø	1	48.	701013	O-ring, Ø 10.82x1.78	1
11.	96690500	Washer, Ø 5x11.5x0.4	3	26.	98217600	Plug, G1/2"x10	1	49.	98196600	Plug, 1/8"x8	1
12.	53040009	Plunger, Ø 15x42	3	27.	96699000	Gasket, Ø 7.5x23x0.5	3	50.	53210670	Support Ring, Ø15	3
	63040509	Plunger, Ø 18x42	3	28.	53210382	Gasket, Ø3x85	1		53210770	Support Ring, Ø18	3
13.	94733300	Spring, Ø 6.2x10.4	3	29.	53010022	Crankcase	1	51.	90385900	O-ring, Ø 25.7x2.62	1
14.	36211151	Outlet Valve Cage Guide	3	30.	58210451	Drip Cover	1	52.	90067100	Stop Ring	1
15.	36719301	Complete Outlet Valve	3	31.	90159300	Oil Seal, Ø 18x24x4.4	3	53.	53217815	Inlet/Outlet Valve Cap	6
16.	99199600	Screw, M6x70	8	32.	53050066	Piston Guide	3	54.	90509300	Ring, Ø 16.4x13.2x1.3	6
17.	63101051	Head Ring, Ø 15	3	33.	97733800	Piston Pin, Ø 10x26.5	3	55.	99303700	Screw, M8x16	4
	63101151	Head Ring, Ø 18	3	34.	53030022	Connecting Rod	3	56.	96701600	Washer, Ø 8.4x14.4x2.0	4
18.	90261100	Packing, Ø 15, HP	3	35.	53150022	Crankcase Side Cover	1	57.	50200074	Pump Foot	2
	90265350	Packing, Ø 18, HP	3	36.	99183700	Screw, M6x16	8	58.*	101162	Kit, ADTR, 1/4"-F, SS, W/Seal	1
	710031	Packing, Ø 15, HP	3	37.	53210851	Oil Sight Glass	1	59.*	101157	Kit, ADTR, 1/4"-M, SS, W/Seal	1
		(K312H, K313H)		38.	90063500	Stop Ring	2	60.*	101158	Kit, ADTR, 3/8"-K, SS, W/Seal	1
19.	90508990	Anti-ext. Ring, Ø 15	3	39.	60021235	Crankshaft, 9.4 mm	1	61.*	K424	Kit, Tapped Valve Plate	1
	90511150	Anti-ext. Ring, Ø 18	3			(ETB1509S17, ETB1809S17)			W/ Valve Spacer & Seals		

* Optional Parts

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

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
55	14.8	20

****Use Loctite 542 Red**

¹ Note: Seal tools included

DIMENSIONS

