

FEATURES

- Features patent-pending “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 inlet/outlet valve plugs
- Nickel-plated forged brass manifold with exclusive lifetime warranty
- Designed for touchless carwash systems and multiple gun systems
- Excellent for carpet cleaning and for use in industrial plant systems where hot water is required

Emperor
Pumps That Rule Any Environment

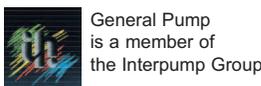


SPECIFICATIONS

Pump Model	HTW3624S
Maximum Volume	18.0 GPM
Maximum Pressure	1200 PSI
Maximum RPM	1000 RPM
Maximum Inlet Pressure	125 PSI
Minimum Inlet Pressure	9 ft. water (7.9 in. Hg)
Maximum Fluid Temperature	185°F
Bore (in / mm)	1.417 in. / 36 mm
Stroke (in / mm)	.945 in. / 24 mm
Oil Capacity	50.7 oz.
Inlet Port Thread	1"-11 BSP-F
Discharge Port Thread	3/4"-14 BSP-F
Shaft Diameter	1.378 in. / 35 mm
Weight	57 lbs.
Dimensions - Nominal	14" x 11.8" x 8.3"

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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).

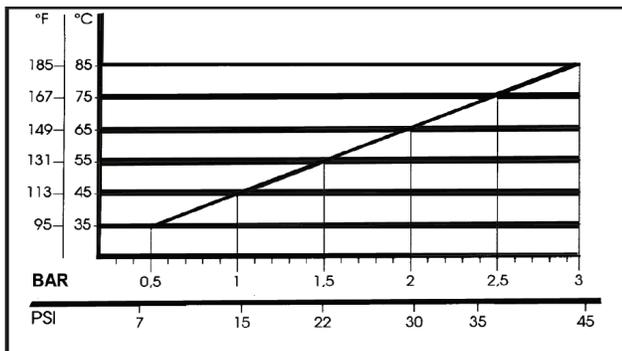
In order to obtain maximum performance in terms of duration of seals and valves, it is necessary to respect a few simple rules, as follows:

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 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.**

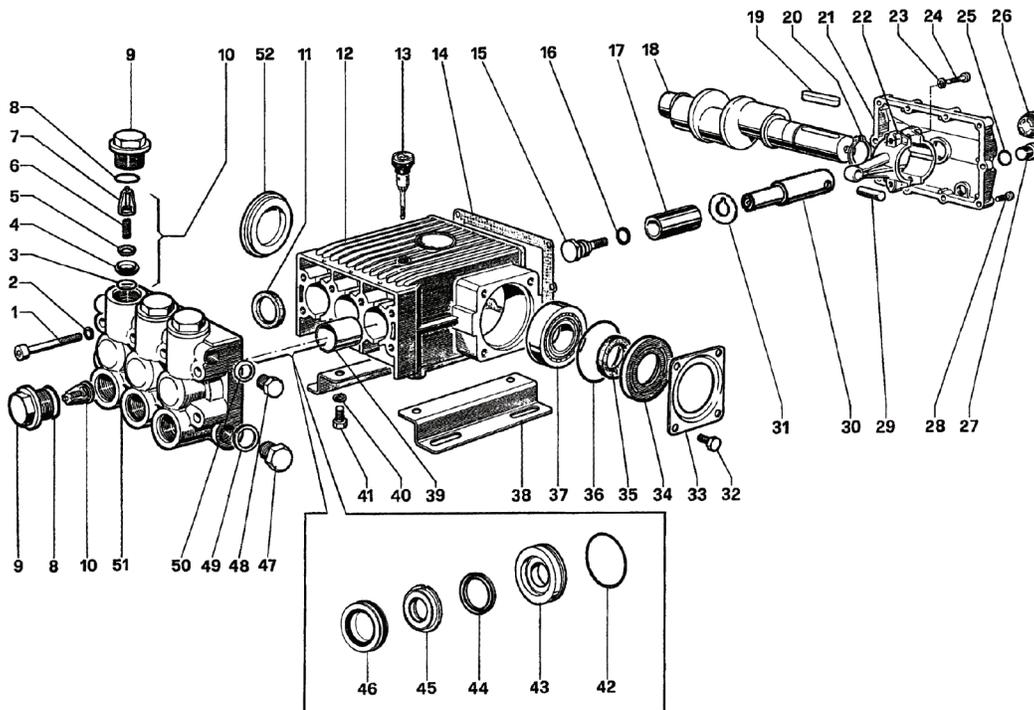
Please note: If the pump works in conditions with high humidity and with sharp temperature changes, it is possible that condensation will appear inside the crankcase, which mixing with the oil can change its properties. This is easy to see because the oil changes to a white, milky color.

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%.

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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.	99381000	Head Bolt, M10	8	19.	91496900	Key	1	37.	91848200	Bearing, Cylindrical Roller	2
2.	96710400	Washer, M10	8	20.	90069500	Circlip	1	38.	47200074	Pump Rail	2
3.	90405900	O-ring	6	21.	69160022	Crankcase Cover, Rear	1	39.	90916200	Guide Bushing	3
4.	36201166	Valve Seat	6	22.	69030401	Connecting Rod	3	40.	96710600	Washer, M10.2	4
5.	36201076	Valve Poppet	6	23.	96701400	Lock Washer, M8.4	6	41.	99364400	Screw, M10	4
6.	94745000	Valve Spring	6	24.	99309900	Screw, M8	6	42.	90388500	O-ring	3
7.	36200951	Valve Guide	6	25.	90383300	O-ring	1	43.	69080570	Seal Retainer, 36mm	3
8.	90406500	O-ring	6	26.	97596800	Oil Level Indicator	1	44.	90240000	L.P. Seal, 36mm	3
9.	98242100	Valve Cap, Nickel-plated	6	27.	98210000	Plug, 3/8"	1	45.	69217170	Intermediate Ring, 36mm	3
10.	36706501	Valve, Complete	6	28.	99186700	Screw, M6	9	46.	90241000	H.P. Seal, 36mm	3
11.	90165600	Plunger Rod Oil Seal	3	29.	97739800	Wrist Pin	3	47.	98232600	Plug, Nickel-plated, G1"	1
12.	69010022	Crankcase	1	30.	69050354	Plunger Guide	3	48.	98226900	Plug, Nickel-plated, G3/4"	1
13.	98210600	Dipstick, Vented	1	31.	96756500	Flinger Washer	3	49.	96787000	Washer	1
14.	69211984	Gasket	1	32.	99363600	Screw, M10	8	50.	96770000	Washer	1
15.	69219666	Plunger Screw	3	33.	68150074	Crankcase Cover	2	51.	69121941	Manifold, Nickel-plated, 36mm	1
16.	90385900	O-ring	3	34.	69211551	Spacer	1	52.	69211651	Spacer	1
17.	69040009	Plunger, 36mm	3	35.	90167200	Crankshaft Oil Seal	1				
18.	69020535	Crankshaft	1	36.	90413100	O-ring	2				

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REPAIR KITS

KIT NO.	K32	K37	K43	K212	K213
ITEM NO'S INCLUDED IN KIT	35	11	3, 4, 5, 6, 7 (10)	44, 46	42, 43, 44, 45, 46
NUMBER OF ASSY'S IN KIT	2	3	6	3	1
NO. OF CYLINDERS KIT SERVICES	-	3	3	3	1

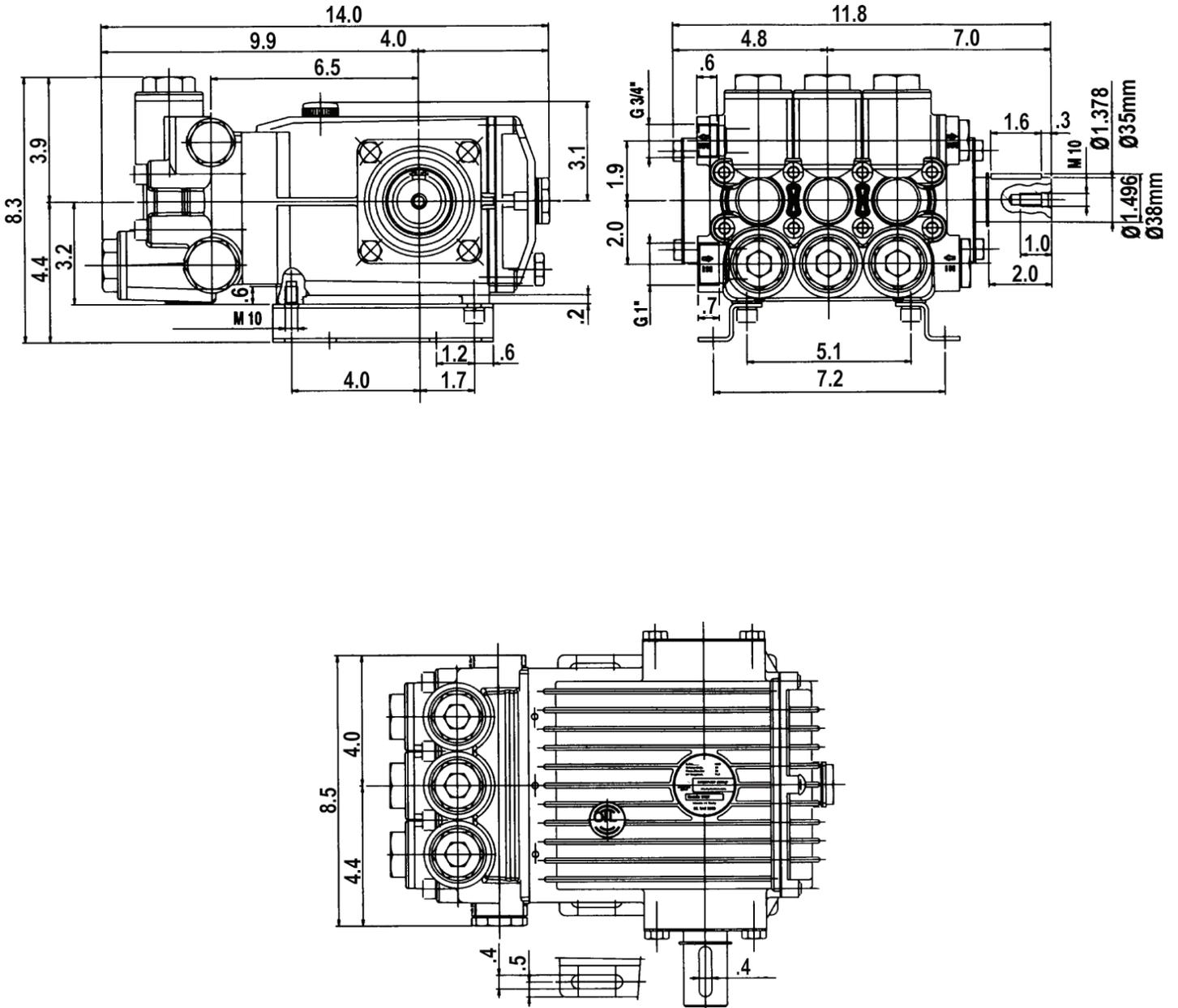
TORQUE SPECS*

Position	Ft.-Lbs.	Nm.
1	29.5	40
9	111	150
15**	29.5	40
24	14.7	20
26	13.2	18
27	29.5	40
28	7.3	10
32	29.5	40
41	29.5	40
47	73.7	100
48	51.5	70

*Decrease torque by 20% if threads are lubricated.

**Use Loctite 542

DIMENSIONS



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