

## Technical Specifications

### Tempest 1



<b>Pump</b>	<b>XT11.14</b>		<b>Boiler</b>	
Pump pressure	100 bar	1500psi	Fuel type	Kerosene/gas oil/derv
Flow rate	111pm	2.45gpm	Pressure	7 bar 100psi
Max by-pass setting	110 bar	1650psi	Nozzle	1.5 US galls
Min pressure setting	50 bar	750psi	Nozzle make	Monarch 60°R or AR
				Danfoss 60° S
H.P nozzle	15045		Electrode gap	6mm ± 1mm
Motor power	2.2KW		Ignition Transformer	70 Watts
Pump oil	10W40		Fuel pump	50 Watts
Unloader valve	MM4B		Fan motor	75 Watts
			Fuses	1 amp semi delay 20mm glass

### Tempest 2



<b>Pump</b>	<b>XT11.14</b>		<b>Boiler</b>	
Pump pressure	120 bar	1750psi	Fuel type	Kerosene/gas oil/derv
Flow rate	111pm	2.45gpm	Pressure	7 bar 100psi
Max by-pass setting	130 bar	1900psi	Nozzle	1.5 US galls
Min pressure setting	50 bar	750psi	Nozzle make	Monarch 60°R or AR
				Danfoss 60° S
H.P nozzle	1504		Electrode gap	6mm ± 1mm
Motor power	2.2KW		Ignition Transformer	70 Watts
Pump oil	10W40		Fuel pump	50 Watts
Unloader valve	MM4B		Fan motor	75 Watts
			Fuses	1 amp semi delay 20mm glass

### Tempest 3



<b>Pump</b>	<b>XT11.14</b>		<b>Boiler</b>	
Pump pressure	110 bar	1600psi	Fuel type	Kerosene/gas oil/derv
Flow rate	91pm	2.45gpm	Pressure	7 bar 100psi
Max by-pass setting	120 bar	1750psi	Nozzle	1.5 US galls
Min pressure setting	50 bar	750psi	Nozzle make	Monarch 60°R or AR
				Danfoss 60° S
H.P nozzle	15045		Electrode gap	6mm ± 1mm
Motor power	2.2KW		Ignition Transformer	70 Watts
Pump oil	10W40		Fuel pump	50 Watts
Unloader valve	MM4B		Fan motor	75 Watts
			Fuses	3 amp semi delay 20mm glass

## FAULT FINDER

FALUT	CAUSE	REMEDY
Machine stops suddenly or will not start.	Blown fuse.	Check mains power power, overload 13 amp fuse and 1 or 3 amp control fuses
Sudden pressure loss.	No water. No chemical.  Burst Disk failure.	Check water supply. Check chemical drum, close valve. Replace disk.
Low pressure.	H.P nozzle worn or unloader set incorrectly.	Replace H.P nozzle. Reset unloader valve.
Low pressure with noise and vibration	Valves worn or blocked.  Piston seals worn. Pump sucking air.	Clean/replace as required. Replace. Check water supply pipe and unions.
Pump will not by-pass.	Non return valve dirty or jammed.	Clean or replace.
Water drips from pump box.	Pump seals worn.	Replace.
Oil drips from pump bottom.	Oil seal worn.	Replace.
Burner will not ignite.	Fuel tank empty. Fuel filter blocked. Fuel nozzle blocked. Electrodes dirty or out of adjustment. Flow switch out of adjustment.	Refil. Replace. clean or replace. clean, replace or adjust.  Adjust.
Oil is milky in colour.	Water igress through oil filter plug.	Replace oil.

**IF IN DOUBT ASK - OUR ADVICE IS FREE AND CAN SAVE YOU MONEY**



## MINIMUM SERVICE SCHEDULES

### DAILY CHECK THE FOLLOWING

- a. Oil level - top up as required.
- b. Fuel tank - top up as required.
- c. All hose unions for leaks- replace O rings if leaking.
- d. Hose condition - cuts etc.
- e. Electrical led and plug - damaged etc.

### EVERY 500 HOURS OR SIX MONTHS (WHICHEVER COMES FIRST)

- a. Drain and replace pump oil.
- b. Drain and refill fuel tank.
- c. Clean and reset electrodes.
- d. Replace fuel filter.
- e. Clean water filter.
- f. Replace high pressure nozzle.
- g. Replace fuel nozzle.
- h. Descale water system. (hard water areas only)

### EVERY 1000 HOURS OR 12 MONTHS (WHICHEVER COMES FIRST)

- a. Complete 500 hour service.
- b. Replace pump seals.
- c. Replace oil seals.
- d. Check float level.
- e. Replace chemical pipes.
- f. Check unloading pressure and safety valve pressure and adjust.
- g. Replace fuel nozzle and set fuel pressure.
- h. Check flow switch and adjust if necessary.
- i. Check electrical connections for tightness.

**The above service schedules are intended as a guide only. Actual service times and replacement parts required will vary according to the area and usage of the machine.**

## PREPARATION

- a. Connect hose to water inlet connector and turn on.
- b. Connect high pressure hose to connector.
- c. Connect lance to hose.
- d. Connect plug to suitable RCD protected supply and turn on.
- e. Top up fuel levels and check oil levels in pump and engine.
- f. If chemical is to be used place filter in drum of chemical and open valve. If not make sure valve is closed.

## OPERATION TO START MACHINE

- a. Push blue switch once to start the engine.
- b. Pull trigger until operating pressure is reached.
- c. Push red switch once, burner will then operate.
- d. Burner will then ignite once trigger is pulled.

## OPERATION TO STOP MACHINE

- a. Close the chemical valve if opened.
- b. Switch to cold by pressing red button once and run the machine until the water turns cold.
- c. Switch off by pressing blue button once.
- d. Pull trigger to release excess pressure and disconnect from machine.
- e. If the machine is to be stored, drain water system and top up the fuel and oil levels.

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## **SAFETY**

- i. Under the terms of the **Health & Safety at Work Act** and for the operators protection a **Residual Current Device (R.C.D)** or **Earth Leakage Trip** **MUST** be used with this machine.
- ii. **Water at high pressure is dangerous and can cause serious injury. This machine is to be used with great caution.**
  - a. NEVER point the high pressure spray jet at any person, animal, glass or any other material which may shatter.
  - b. PREVENT any over-spray from injuring other people or damaging property.
  - c. DO NOT even try to use a pressure washer on machinery or electrical equipment that is connected in any way to the manis supply. (all switches in the off position, pull out all plugs and if possible remove fuses). Cover or seal electric motors and fittings to prevent entry of water.
  - d. ALWAYS when using machine:-
    - wear safety goggles and helmet or helmet with a visor.
    - wear waterproof clothing and gloves.
    - take particular care with detergents and chemicals.
  - e. NEVER attempt to disconnect any hose with pressure in it or allow the hose to be flattened or kinked.
  - f. DO NOT use a high pressure hose from a ladder. Use a platform tower or proper scaffolding.
  - g. CHECK that your supply voltage agrees with that shown on the machine.
  - h. Extentions leads are not recommended for use with this equipment. Fit extention hoses or contact the service department.
  - i. Where a cable is found to be damaged, the power must be switched off and the plug removed before attempting to remove the equipment.
  - j. ALWAYS disconnect the hoses when the machine is not in operation and protect the machine from frost and cold winds.
  - k. ALWAYS use the machnie in a well ventilated area.

**CAUTION** - if using chemicals some brands will adversely affect the brass components fitted to this machine. If in doubt please telephone our technical department for advice.

# Tempest Hot Water Range - General Arrangement

