

Typical Technical Proposal

This modification upgrade is based on a turbine unit removed from site and returned to HTS for upgrading and refurbishment. It assumes that all major castings and the wheelshaft assembly are in reasonable condition and that repair excludes major weld repairs. Hayward Tyler will supply all standard wearing parts and sealing components. The objective is to provide a complete 'current' turbine incorporating all the various upgrades made on this design of unit which have evolved throughout its operational life:

- Horizontal Woodward governor providing better speed control & response time
- Bearing isolators to prevent lube oil contamination & improve bearing life
- Material upgrades and revised arrangements to external linkages to prevent corrosion & seizure
- New 2-part stuffing box with 4 carbon rings per box for improved steam sealing
- Tighter dynamic balance specification for improved rotor stability
- New design positive shut-off trip valve to replace problematic butterfly trip valve

These upgrades will be engineered with the aim of ensuring that the upgraded unit can be retrofitted to the existing bedplate and inlet/exhaust pipework without complication. We would require the specific serial number of each individual machine to ensure parts compatibility and that minor drains, gauge or bypass pipework will not need modification on site.

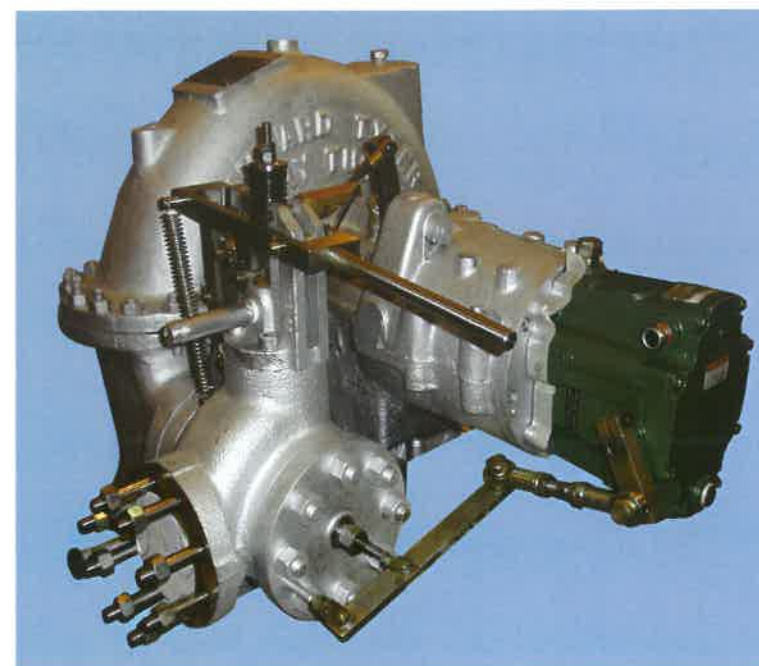
Scope of Supply - Refurbishment

The following outlines the normal activities for T100/TS200, T400/TS600, HT200/HT600 (Z and G type Hayward Tyler Terry Turbine) rebuild and test, excluding any specific improvements:

- a) Receive, strip down, inspect, size & issue 'as received' Inspection Report
- b) Conduct casing dye penetrant NDT
- c) Manufacture / procure all wearing / sealing components & required parts necessary for rebuild
- d) Polish shaft journals at bearing and carbon locations
- e) Sub-assemble rotating element c/w trip hub & coupling half
- f) Dynamic balance rotor to Grade 2.5
- g) Rebuild turbine, completing 'as built' Inspection Report as required
- h) Conduct necessary no-load live steam testing work in accordance with recognised Turbine Test procedures
- i) Paint & prepare turbine for return to site, deliver to site

These services are also available for the Hayward Tyler range of skinner HT150, HT500, HT1200 and the HT2200 (SK11, S23, S28). Should you require further clarification or assistance, please do contact us.

To obtain a quotation or for further information please contact us on +44 (0)1582 731144 or email us at service@haywardtyler.co.uk



OEM: **Hayward Tyler**
 For types: T100/TS200, T400/TS600, HT200 / HT600
 Z1 & G Type Hayward Tyler Terry

Hayward Tyler Services offer a comprehensive range of aftersales services for our own and other OEM pumps, motors and turbines. We can provide replacements or upgrades **for steam turbines that will deliver** much greater efficiency and reliability and in turn meet today's more stringent health and safety regulations.

Hayward Tyler Services **provide a number of upgrade options** to cover the refurbishment, rebuild, no-load testing and return of a Hayward Tyler T100/TS200, T400/TS600, HT200 / HT600 (Z and G type Hayward Tyler Terry Turbine) General Purpose Process Steam Turbine. This datasheet summarises the scope of supply **for refurbishment** and the benefits that you can expect.

Benefits of upgrading your steam turbine

- Improved trip repeatability
- Improved meantime between failures
- Easier operation
- Noise reduction
- Prolonged bearing life
- Greater efficiency
- Positive shut-off