JOHN THOMPSON has a long history in the boiler industry and has its roots in the Industrial Revolution of nineteenth-century England. Now, John Thompson is the Power Division of ACTOM (Pty) Ltd, with its principal focus on being the best boiler and environmental solutions company. We specialise in the design and manufacture of package firetube boilers and industrial watertube boilers and also retrofit and maintain utility boilers and environmental equipment.

This brochure covers the products and services of our Package Boilers business unit. The firetube boilers range in steam capacity from 1 t/h up to 32 t/h and include coal-fired boilers, biomass-fired boilers, oil / gas-fired boilers and custom-designed waste-heat boilers.

John Thompson’s head office and factory are located near Cape Town and during the past 60 years we have supplied over 4 000 firetube boilers to customers in many industries in Africa, Europe, South-East Asia, the Middle-East, South America and Australia.

All of our boilers now incorporate spiral-tube technology, developed in our test centre, which enhances thermal efficiency and reduces fuel consumption and CO2 emission. The boilers are currently designed and manufactured in compliance with the latest international standard, EN12953, and are inspected and certified by an Approved Inspection Authority before dispatch.

For further information about John Thompson, its boilers and services, please visit our website: www.johnthompson.co.za

### BOILER PRODUCT RANGE (standard design pressures 1 100, 1 400, 1 725 & 2 000 kPa)

#### Oil / Gas

<table>
<thead>
<tr>
<th>Model number</th>
<th>TE500</th>
<th>TE650</th>
<th>TE800</th>
<th>TE1000</th>
<th>TE1200</th>
<th>TE1600</th>
<th>TE2000</th>
<th>TE2600</th>
<th>TE3200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steam output kg/h</td>
<td>5 000</td>
<td>6 500</td>
<td>8 000</td>
<td>10 000</td>
<td>12 000</td>
<td>16 000</td>
<td>20 000</td>
<td>26 000</td>
<td>32 000</td>
</tr>
<tr>
<td>Boiler rating kW</td>
<td>3 134</td>
<td>4 075</td>
<td>5 015</td>
<td>6 269</td>
<td>7 522</td>
<td>10 030</td>
<td>12 537</td>
<td>16 298</td>
<td>20 059</td>
</tr>
<tr>
<td>Oil consumption kg/h</td>
<td>302</td>
<td>392</td>
<td>482</td>
<td>602</td>
<td>723</td>
<td>961</td>
<td>1 202</td>
<td>N/A</td>
<td>1 922</td>
</tr>
<tr>
<td>Gas consumption Nm³/h</td>
<td>329</td>
<td>427</td>
<td>525</td>
<td>656</td>
<td>788</td>
<td>1 047</td>
<td>1 309</td>
<td>1 702</td>
<td>2 094</td>
</tr>
</tbody>
</table>

Oil: GCV 43 400 kJ/kg, efficiency 86% on GCV, 92% on NCV
Gas: GCV 41 300 kJ/Nm³, efficiency 83% on GCV, 89% on NCV

#### Coal / Biomass

<table>
<thead>
<tr>
<th>Model number</th>
<th>TU180</th>
<th>TU320</th>
<th>TU500</th>
<th>TU675</th>
<th>TU800</th>
<th>TU1050</th>
<th>TU1600</th>
<th>TU2100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steam output kg/h</td>
<td>1 800</td>
<td>3 200</td>
<td>5 000</td>
<td>6 750</td>
<td>8 000</td>
<td>10 500</td>
<td>16 000</td>
<td>21 000</td>
</tr>
<tr>
<td>Boiler rating kW</td>
<td>1 128</td>
<td>2 006</td>
<td>3 134</td>
<td>4 231</td>
<td>5 015</td>
<td>6 582</td>
<td>10 030</td>
<td>13 164</td>
</tr>
<tr>
<td>Coal consumption kg/h</td>
<td>177</td>
<td>314</td>
<td>491</td>
<td>663</td>
<td>785</td>
<td>1 031</td>
<td>1 571</td>
<td>2 062</td>
</tr>
</tbody>
</table>

Coal: GCV 27 500 kJ/kg, peas size grading, efficiency 84% on GCV, 87% on NCV
Steam output on biomass is subject to the fuel analysis

#### Oil / Gas

<table>
<thead>
<tr>
<th>Model number</th>
<th>TR100</th>
<th>TR200</th>
<th>TR300</th>
<th>TR400</th>
<th>TR500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steam output kg/h</td>
<td>1 000</td>
<td>2 000</td>
<td>3 000</td>
<td>4 000</td>
<td>5 000</td>
</tr>
<tr>
<td>Boiler rating kW</td>
<td>627</td>
<td>1 254</td>
<td>1 880</td>
<td>2 507</td>
<td>3 134</td>
</tr>
<tr>
<td>Oil consumption kg/h</td>
<td>63</td>
<td>125</td>
<td>189</td>
<td>251</td>
<td>309</td>
</tr>
<tr>
<td>Gas consumption Nm³/h</td>
<td>69</td>
<td>136</td>
<td>206</td>
<td>273</td>
<td>337</td>
</tr>
</tbody>
</table>

Oil: GCV 43 400 kJ/kg, efficiency 84% on GCV, 90% on NCV
Gas: GCV 41 300 kJ/Nm³, efficiency 82% on GCV, 88% on NCV

#### Wood

<table>
<thead>
<tr>
<th>Model number</th>
<th>TS300</th>
<th>TS400</th>
<th>TS500</th>
<th>TS800</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steam output kg/h</td>
<td>3 000</td>
<td>4 000</td>
<td>5 000</td>
<td>6 000</td>
</tr>
<tr>
<td>Boiler rating kW</td>
<td>1 880</td>
<td>2 510</td>
<td>3 140</td>
<td>3 760</td>
</tr>
<tr>
<td>Wood consumption kg/h</td>
<td>593</td>
<td>791</td>
<td>990</td>
<td>1 186</td>
</tr>
</tbody>
</table>

Wood logs: NCV 15 000 kJ/kg, moisture content 25%, efficiency 77% on GCV, 85% on NCV

Note: While all information is given in good faith, it should be confirmed before establishing any contractual commitment.
SERVICES
- Manufacturing
- Technical support
- Steam out-sourcing
- Turnkey installation
- Energy management
- High technology NDT
- Repairs & refurbishment
- Metallurgical inspection
- Boilerplant management
- Commissioning & testing
- After sales service & spares
- Operator & supervisor training
- Coal/Oil/Gas/Biomass conversions

ENGINEERING CAPABILITIES
Our design and engineering staff undertake work in the following disciplines:
- Boiler design
- Pipe stressing
- Circulation modelling
- Combustion modelling
- Pressure vessel design
- Instrumentation and control
- On-site investigations and audits
- Computational fluid dynamics (CFD)

CFD graphic of an economiser bank
Boiler plant 3D model
THOMPSON EUROPAC
Coal/Biomass-fired Boiler with
MICROPAC
Boiler Management System

FEATURES & BENEFITS

- Thermal efficiency of 84% with GCV 27 500 kJ/kg provides 10 kg steam per kg coal
- Three-pass conventional firetube wet-back design with spiral-tubes in both tube passes
- Flanged end-plates in place of flat end-plates on selected boilers to eliminate tee-butt weld joints. This reduces susceptibility to corrosion fatigue and extends boiler life
- MICROPAC boiler management system to increase efficiency and reduce operating and maintenance costs
- Variable-speed drives for FD fan, ID fan, feedpumps and stoker to reduce power consumption
- Total package incorporates chain grate stoker, feedwater pumps, control panel, grit collector, fans and all necessary valves and fittings
THOMPSON TRIUMPH
Chaingrate Stoker

FEATURES & BENEFITS
- Swinging chute for uniform fuel distribution
- Robust design and construction for long life
- Planetary gearbox with electronic shearpin protection
- Motorised undergrate dampers for optimal air zoning
- Combustion efficiency 97% for Peas size coal GCV 27 500 kJ/kg
- Combustion efficiency 93% for Smalls size coal GCV 25 500 kJ/kg
- Total package incorporates a chaingrate stoker with variable-speed drive, FD fan, combustion controls and control panel
- All cast iron components are produced at the John Thompson foundry under the Meehanite process – the international benchmark for guaranteed quality

Biomass fuels burnt on our Chaingrate Stoker include wood pucks, wood chips, wood pellets, grape pomace pellets, nut shells, torrified biomass and sunflower husks.
FEATURES & BENEFITS

- High thermal efficiency of up to 91.5% at rated output to reduce fuel consumption and CO₂ emission (An economiser can be provided for ultra-high efficiency)
- Three-pass conventional firetube wet-back design with spiral-tubes in both tube passes
- Flanged end-plates in place of flat end-plates on selected boilers to eliminate tee-butt weld joints. This reduces susceptibility to corrosion fatigue and extends boiler life
- Combustion equipment to suit a wide range of oil viscosities and gas compositions
- Total package incorporates burner, fan, feedwater pump, control panel and all necessary valves and fittings
- Microprocessor-based combustion control system for optimum combustion efficiency
- Twin burner boilers are available for boiler ratings above 26 000 kg/h
ANCILLARY PLANT

The following ancillary plant is available:

- Pipework
- Economisers
- Oil ring mains
- Blowdown vessels
- Ash handling plant
- Coal handling plant
- Ducting and chimneys
- Feedwater storage tanks
- Custom-designed waste-heat boilers
- Atmospheric and pressure type deaerators
- Pulse-jet fabric filters (bag filters) to reduce particulate emission to below 50 mg/Nm³
- Multi-cyclone grit collectors to reduce particulate emission to below 250 mg/Nm³