

JOHN THOMPSON OVERVIEW

30 September 2021





ACTOM (Pty) Ltd is a level 1 B-BBEE Contributor with 52.91% Black Ownership and 31.97% Black Women Ownership. It is the largest manufacturer, solution provider, repairer, maintainer and distributor of electro-mechanical equipment in Africa, offering a winning and balanced combination of manufacturing, service, repairs, maintenance, projects and distribution through its 33 outlets throughout Sub-Saharan Africa.

ACTOM is also a major local supplier of electrical equipment, services and balance of plant to the renewable energy projects.

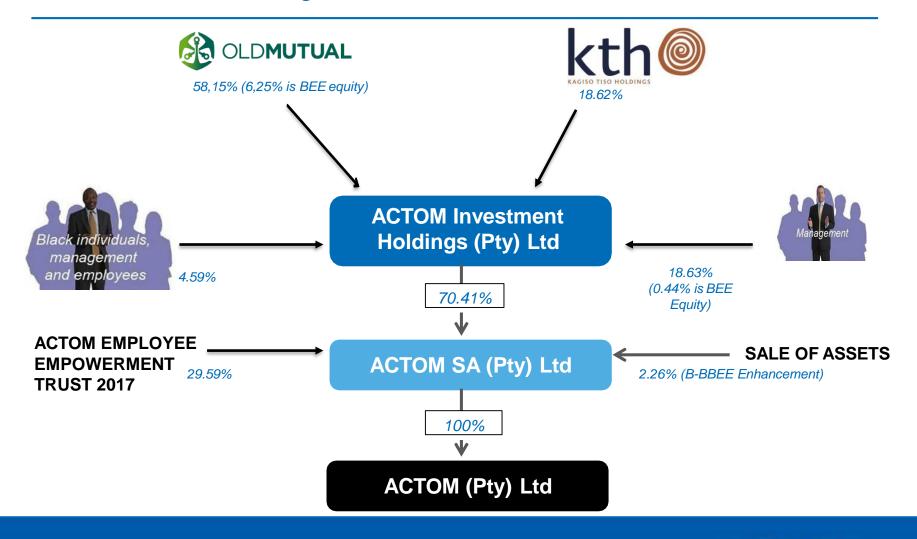
It also holds numerous technology, distribution and value added reseller agreements with various partners, both locally and internationally.

AÇTOM



ACTOM's Shareholding Structure







ACTOM (PTY) LTD DIVISIONS AND BUSINESS UNITS

Power	Engi	ineering Projects & Contracts	High Voltage Equipment		Medium Voltage Switchgear		Power Transformers		Distribution Transformers		LH Marthinusen	
John Thompson Utility Boilers & Environmental		Industry	Circuit Breakers		MV Switchgear		Power Tran	sformers	Distribution Transfo	ormers	Transformers	
John Thompson Industrial Watertube Boilers	Contracting		Disconnectors		WPI Power Solutions						Motors	
John Thompson Package Boilers	Power Systems		Instrument Transformers		Current Electric						Fluidex	
John Thompson Manufacturing	_	Signalling and Transport Equipment and Projects		Surge Arresters & Insulators							Fan Service	
John Thompson Air Quality Solutions	,	ACTOM Energy		Isolated Phase Busbars & Insulated Busbars								
	LHM Coastal		HV Hybrid Switchgear upto 132kV									
		HV service and spare parts										
Reid & Mitchell		Marthinusen & Coutts		ACTOM Turbo Machines		Metalplus		Electrical Equipment			ACTOM Smart Technologies	

Reid & Mitchell	Marthinusen & Coutts	ACTOM Turbo Machines	Metalplus	Electrical Equipment	ACTOM Smart Technologies
Reid & Mitchell	Rotating Machines	ACTOM Turbo Machines	Metalplus	Electrical Products	Protection & Control
ACTOM Electrical Machines	Engineering Services			Genlux Lighting	Static Power
ACTOM Energy Namibia				Satchwell	Alkaline Batteries
Electrical Products Namibia					COM10
Namibian Armature Rewinders					

Key: **Divisions** Business Units



Multi-Branded































































hydraulics























MISSION STATEMENT

To be a global leader in energy and environmental solutions through value engineering and innovation





OUR VALUES



Customer Driven Excellence

The customer is the ultimate judge of our performance.



Innovation

We have passion for sustainable solutions.



Leadership

Our values-based leadership inspires us to transform and excel



Accountability

We own our actions and consequences.





Our respectful behaviour creates the human dignity we are all entitled to.





We do the right thing even when no-one is watching.
We align our actions with our words and deliver what we promise.
We build and strengthen our reputation through trust.

Forward together.



A Proud and Distinguished History





ALSTO

142	1824	William Thompson established an iron boat building business in Bilston, UK
T'VERTICAL' WATER TUBE	1870	Works moved to Wolverhampton to concentrate on production of steam boilers
	1935	Agent appointed in South Africa
COMPACIE Nature PLAYIN FORMATIONS TORNAME	1954	John Thompson – Albert de Jong (Pty) Ltd manufacture their first boiler in South Africa
	1960	John Thompson Africa (Pty) Ltd established under control of UK parent company
	1969	John Thompson UK acquired Cochran to become Europe's leading manufacturer of shell boilers
	1977	Clarke Chapman Ltd & Reyrolle Parsons Ltd formed Northern Engineering Industries Ltd (NEI)
	1989	NEI merged with Rolls-Royce creating Rolls-Royce Industrial Power Group which included International Combustion Ltd, Cochran and John Thompson Africa
	2001	ALSTOM Power purchased the assets of NEI Africa including John Thompson Africa and ICAL and created the business division – John Thompson Boilers
Ro	2004	ALSTOM South Africa acquired 90% of its shares from Alstom Plc and became a South African owned company with a 50% BEE ownership
. 10	2009	ALSTOM Electrical Industries (Pty) Ltd rebranded to become ACTOM (Pty) Ltd of which John Thompson is a division
The Comment	2010	John Thompson celebrates 75 years in South Africa

John Thompson's manufacturing facility in Bellville celebrates its 60th year



Technology History



Lancashire Boilers
John Thompson Wolverhampton

CE Raymond
CE Raymond
Combustion Engineering

Combustion Engineering

Norld Bank ogyteansfer to China

Norld Bank Rolls Royce

ALSTOM

Technology People Customers











More Than 75 Years of John Thompson in South Africa



































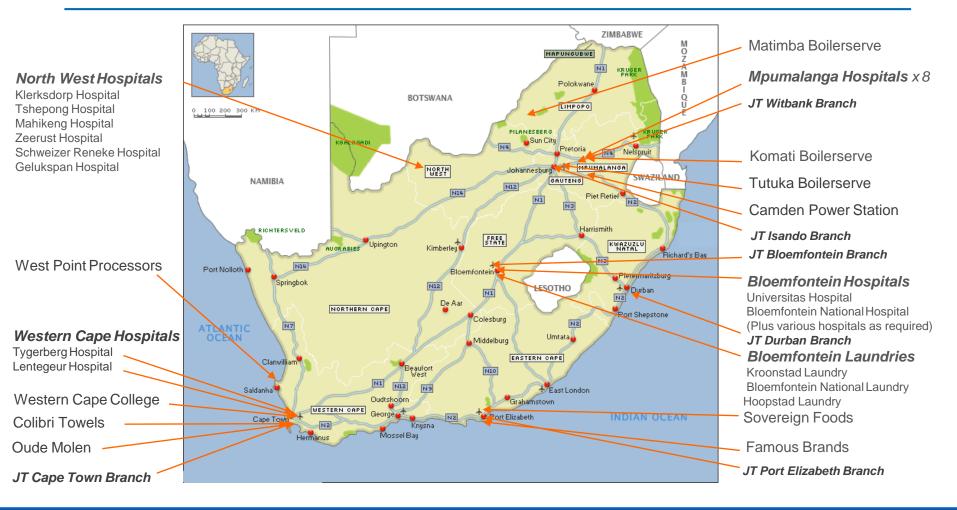






Regional Presence, Outsourcing and OM Sites

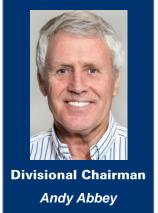






John Thompson Management Structure









Over 200 Years Experience



Actom Executive Shirley Chauke



Finance & Jaco Grobbelaar



de Villiers



Business Shad Seeth



Janene Jansen



Alley Verhufen



Package Martin Reck



Russell Warren



Utility Boiler & Gladstone Mbili



Suben



AQS APC & HVAC Tobie Jansen

Training Programmes



Apprentice training school:

- Boilermakers
- Fitters
- Welders

Boiler development and training centre:

- Boiler operating (coal firing)
- Boiler operating (oil and gas firing)
- Boiler maintenance
- Stoker maintenance
- Boiler supervision and management
- Boiler inspection

On-site training:

Boiler operating





Social Responsibility Initiatives



- 1. Osithandweni Stimulation Centre, Nthoroane, Greylingstad
 - · Burglar bars and gates
 - · Palisade fencing
 - Paving
- 2. Tshepeha Secondary School, Grootvlei
 - · Refurbish all buildings
 - · Pave parking and assembly areas
- 3. Tegwan's Nest Combined School, Nthoroane, Greylingstad
 - Rebuild school hall and kitchen
 - · Repair roof
 - · Replace pit toilets with septic tank system
- 4. Nthoroane Library, Greylingstad
 - · Supply and install new containerized library for community
- 5. Leseli Combined School, Sakhile, Standerton
 - · Supply and install palisade fencing
 - · Refurbish ablution block
- 6. Letupu High School, Lephalale
 - · Supply and install prefabricated offices and boardroom



Supplier and Enterprise Development Initiatives



- 1. Siyavuka Plant Hire, Balfour
- 2. Divinity Trading and Logistics, Balfour
- 3. Bosveld Guest House, Lephalale
- 4. Phooko & Sons, Lephalale
- 5. Lebudi Kgatelopele, Lephalale
- 6. Asakhendoda (Pty) Ltd, Standerton
- 7. Dubandlela, Standerton



Bellville Capabilities and Capacities



Cranes:

• Lifting capacity up to 100 ton

CNC plasma and oxy-acetylene profile cutting and flame bevelling:

• Largest plate size 4 m x 14 m

Guillotine:

• Up to 3 m wide by 12 mm thick

Plate rolling:

• Up to 3,2 m wide and 70 mm cold

Press brake:

• Up to 400 ton, knife length 3 730 mm

Hydraulic press:

Up to 500 ton

Submerged arc welding machines:

- Max. boom travel vertically 6 100 mm /
- Max boom travel horizontally 6100 mm

Thermal stress relieving:

• Size 21000 x 5 150 x 5 855 mm; Capacity 100 ton

Radial and traveling bed drilling machines:

- Max. distance outside column to spindle center 2 515mm
- Max. height under spindle 2 200 mm
- Max. drill size 100mm, travel 11000 mm

CNC pipe bending machine

- Up to 115 mm diameter cold bending
- Above 115mm hot bending

Automatic panel/membrane wall welding machines Panel bending machine Automatic economiser tube fin welding machines





John Thompson Foundry



- All cast iron at the John Thompson foundry is produced under the Meehanite process
- It is South Africa's only foundry dedicated to boiler castings
- The Meehanite process covers the production of more than 40 grades of cast iron
- The Meehanite licence is restricted to 200 of the world's leading foundries
- The Meehanite process involves detailed specifications, records and controls at each step of production to ensure the consistent guaranteed high-grade quality of castings demanded by the international licensor.







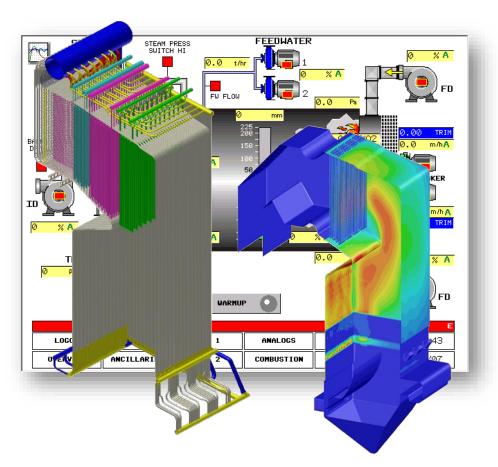






Engineering Services





Mechanical Design & Weld Engineering

Conceptual and detail Designs
3-D modeling, CFD and thermal modelling
Product development
Operational and maintenance technical support Weld
development and qualifications

Instrumentation & Controls

Control philosophies for full automation P & I diagrams and SCADA development Measurement and remote monitoring Data analytics and AI / neural networks

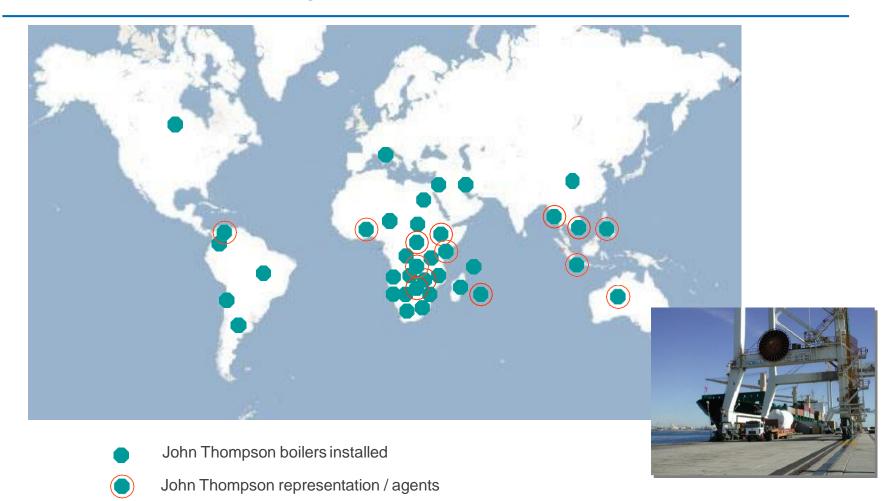
Metallurgical Inspections

Metallographic examination Non-destructive testing and replication Boiler statutory inspections Metallurgical inspection remnant life analysis Failure analysis



Worldwide Markets and Agents







Quality and Certification



• ISO 3834 : IIW Manufacturer Certification Scheme

ISO 9001 : 2015ISO 14001: 2015ISO 45001: 2018

• Nuclear Supplier Level 1 RD0034

· Lloyd's certificate of manufacture

• BBBEE - Level 1 contractor

CIDB 9ME Qualification

3 Flames Member of SAGA

Eskom

Sasol











Solutions Driven





Engineering solutions



Environmental solutions



Solutions!



Project solutions



Logistics solutions



Financial solutions



Renewable Energy and Eco-Fuels





Biomass combustion
Co-generation
Waste-heat boilers
Environmental solutions
Solar energy









Customer Base (not a complete list)







Exports















South East Asia Business





Boilers Installed:

Over 650





South East Asia Customers

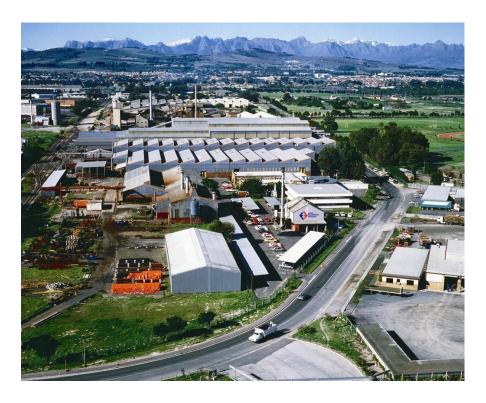






John Thompson Today





R 1 600 000 k Annual turnover

> 1 600 Employees





John Thompson Business Units



Utility Boilers & Environmental

Industrial Watertube Boilers

Package Boilers

Manufacturing

Air Quality Solutions











- Boiler maintenance and retrofits
- Electrostatic precipitators
- > Fabric filter plant
- Welding procedure development
- > High pressure piping
- Nuclear piping
- Construction services
- Cooling towers
- Flue gas desulphurisation
- Laser cutting and steel fabrication

- Coal-, biomass-,oil-& gas-fired watertube boilers
- Waste-heat boilers
- > Boiler components
- Construction services
- > Engineering services
- Refurbishment & retrofitting
- After-sales service & spares

- Coal-, biomass-, oil-& gas-fired firetube boilers
- Waste-heat boilers
- Chaingrate stokers
- > Energy management
- Engineering services
- Construction services
- Boiler development & training centre
- After-sales service & spares

- Pressure vessels
- Steam generators
- Pressurised system
- Heavy fabrications
- Piping, plate & structural
- Meehanite foundry
- Quality assurance & control
- Inspection services
- Non-destructive testing
- Post weld heat treatment
- Pressure testing
- Qualification of welding procedures and welders

Air Pollution Control (APC)

- Dust control, Gas cleaning, Turnkey systems, Bag filters, Wet scrubbers, Cyclones, Grit collectors, ESPs
- Design engineering, After sales
 & spares, Maintenance,
 Refurbishment & repairs

Heating, Ventilation and Air

Conditioning (HVAC)

- Design, Fabrication, Installation& Commissioning
- After-Sales Service & Maintenance





Utility Boilers & Environmental Solutions



Utility Boilers & Environmental Solutions





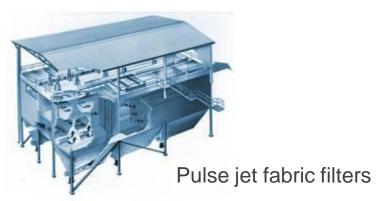
Electrostatic precipitators

De-sulphurisation (NID)





Utility boilers maintenance, service & repairs









Boilers Pressure parts Gas cleaning Maintenance Repairs Pipe work



Utility Boilers





Arnot Power Station

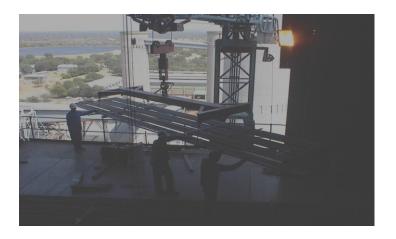


Utility Boilers



Matimba Power Station

Boiler repairs and boilerserve contract







Electrostatic Precipitators



SAPPI Ngodwana

Replacement of two ESP's existing internals with ALSTOM new designed internals, consisting of three electrical fields each









Coal Stack Emission Abatement System

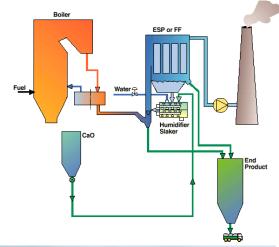


MONDI Merebank

De-sulphurisation of the existing coal fired boiler plant using our NID technology with fabric filters as integrated collector



The NID process with bag filters







Bag Filters



Fabric filter retrofit units 1 to 3 Arnot

Retrofitting of the existing ESP's into fabric filter plants.













Industrial Watertube Boilers



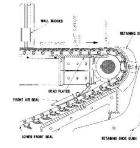
Watertube Boilers – Construction and Field Services



- Repairs and maintenance
- Construction
- Metallurgical evaluation and analysis
- Boiler inspections
- Engineering services
- Commissioning and training services
- After sales service and spares











Watertube Boilers – Typical Designs





Typical Eckrohrkessel Cornertube Boiler

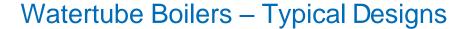
- Caltex refinery
- 120 t/h steam
- 45 bar, 450 °C
- Fuel: HFO, Gas or vacuum residual

Typical Bagasse-Fired Watertube Boiler

- Mhlume Boiler No. 7
- 100 t/h steam
- 31 bar, 400 °C
- Fuel: bagasse/coal
- 400 t/h pre-boiler station





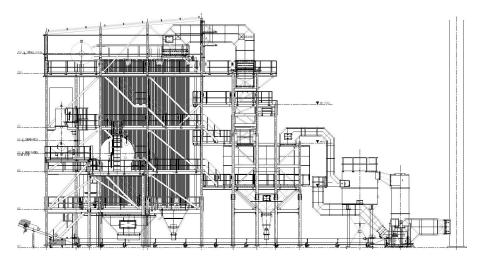






MicroGen Boiler

- Sumitomo Rubber Ladysmith Boiler no. 4
- 30 t/h steam
- 28 bar, sat
- Fuel: coal





Under Construction at Glenmore, Indonesia 2 x 100 T Watertube Boilers







Some Recent Watertube Boiler Installations in the Sugar Industry (300+ Total)





Project	Size T/h
Bombana, Indonesia	2 x 100
Kwilu Ngongo, DRC	80
Glenmore, Indonesia	2 x 100
Illovo Ubombo, Swaziland	104
Acucareira de Xinavane Sugar, Mozambique	180
TSB Komati, South Africa	150
Mhlume Sugar, Swaziland	125
TSB Malelane, South Africa	150
RSSC Simunye Sugar, Swaziland	125
Flacq United Estates Limited, Mauritius	100



Boilers in the Sugar Industry



105 t/h bagasse-fired boiler under construction at Illovo Ubombo in Swaziland















50 T/h bagasse/coal fired VU 70 boiler relocated to Illovo.

Eston sugar mill in South Africa.



Watertube Boilers – Construction Operations





180 T/h bagasse/coal-fired boiler under construction in Mozambique

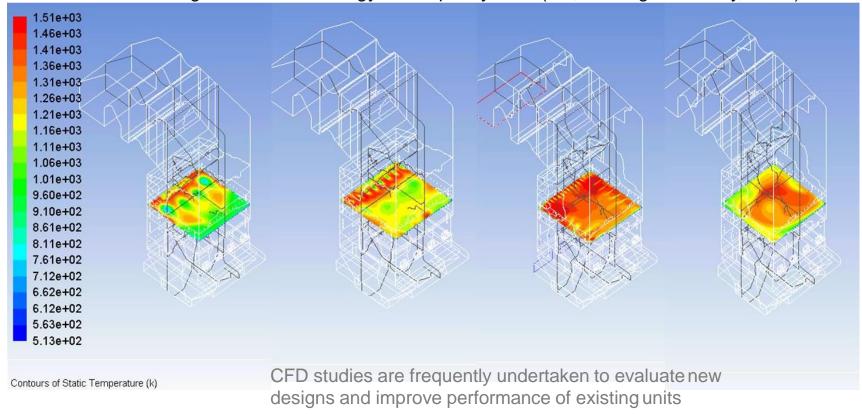




Watertube Boilers – Design Aspects



"the integration of advanced secondary air supply systems in grate-firing boilers represents one of the real breakthroughs in this technology in the past years" (Yin, Aalborg University, 2012)







Package Boilers



Products and Services



- Package boilers
 - Thompson EUROPAC coal-fired
 - Thompson ENVIROPAC oil/gas-fired
 - Thompson REDIPAC oil/gas-fired
 - Thompson SIMPAC wood-fired
 - Thompson TORIPAC biomass-fired
- Waste-heat boilers
- Low voltage electrode boilers
- Micropac and Lamtec control systems
- Deaerators feedwater tanks
- Chaingrate stokers
- Gas cleaning solutions
- Steam outsourcing
- Engineering services
- Construction and field services





Typical Large Boiler House





Steam flow each

Steam pressure

Efficiency on NCV

Fuel

20 650 kg/h

1 830 kPa

88%

Pea Coal

6 - Afripac 492K's





Typical Oil Fired Installation





3 - TM800 Multipacs (3 x 8 t/h)



Construction and Field Services



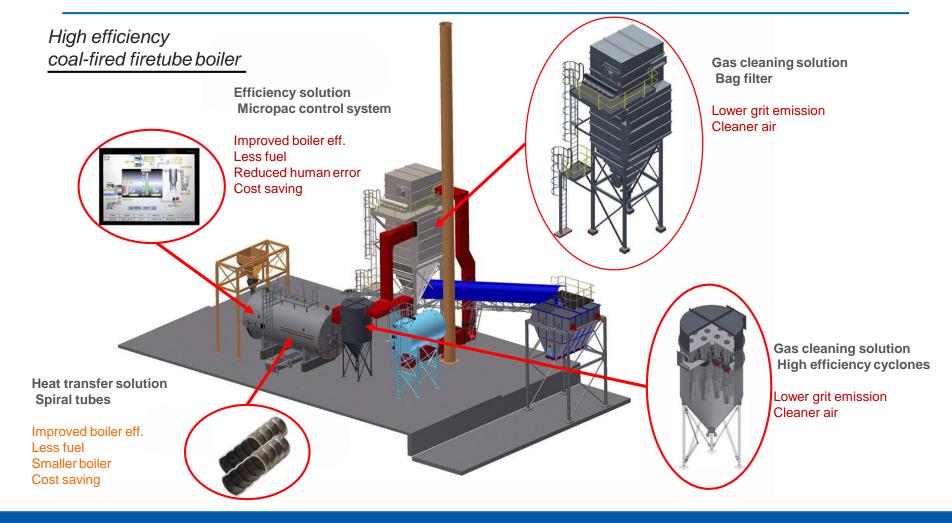
- Construction
- Commissioning and training
- After sales service
- Spares
- Repairs
- Matallurgical evaluation
- Boiler inspections
- Engineering services









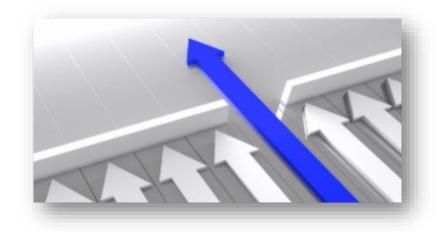


ACTOM

Energy Management



- Outsourcing contracts
- Operating & maintenance contracts
- Existing boilerhouse management
- Steam utilization surveys & feasibility studies





Manufacturing

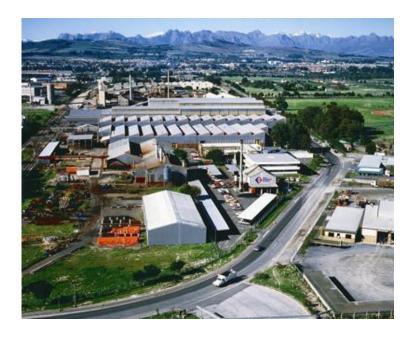


Manufacturing



John Thompson works – since 1954



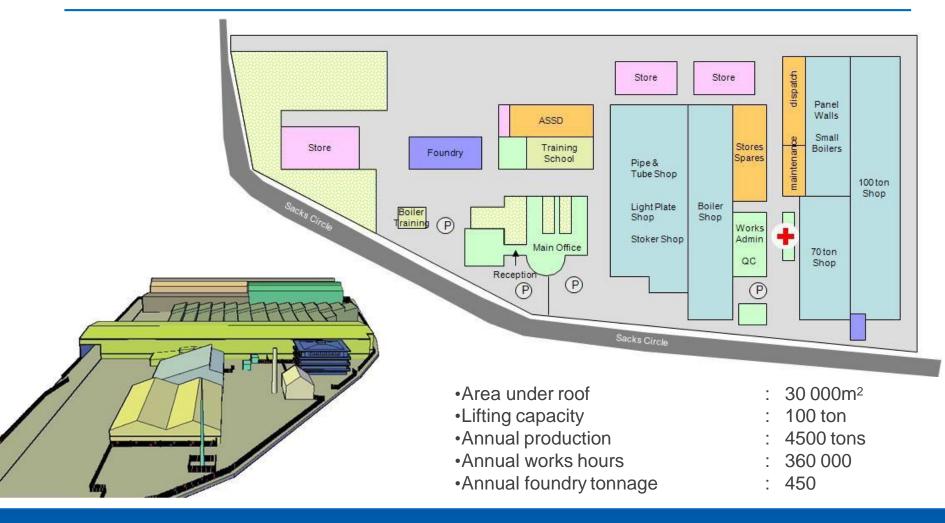






Factory Layout







Bellville Capabilities and Capacities



Cranes:

• Lifting capacity up to 100 ton

CNC plasma and oxy-acetylene profile cutting and flame bevelling:

• Largest plate size 4 m x 14 m

Guillotine:

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Plate rolling:

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Submerged arc welding machines:

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Inspection and Testing



- Ultrasonic testing (UT)
- Hardness testing (fixed & portable)
- Dye penetrant inspection (DPI)
- Magnetic particle inspection (MPI)
- X-Ray bay for the safe use of isotopes
- Metallurgical testing and investigations
- Ultrasonic thickness testing





Welding Capability



The following welding processes are in use:

FBW MMA

FCAW

OA

MCAW

SA

MAG & pulsed MAG

MIG & pulsed MIG

TIG & pulsed TIG

Flash butt welding

Manual metal arc

Flux cored arc welding

Oxy-acetylene

Metal cored arc welding

Submerged arc welding

Metal active gas

Metal inert gas

Tungsten inert gas









Steam drum and economiser elements







Panel walls







Water-cooled hood







Pressure vessel







Spreader openings







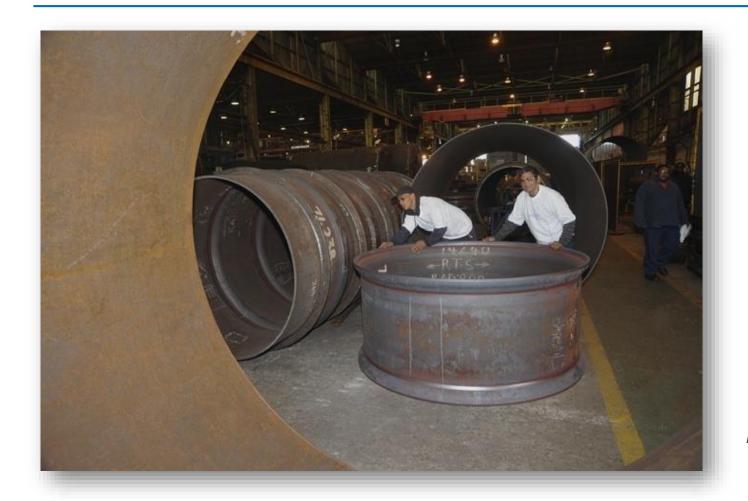
Special fabrications











Bowling-hoop furnaces



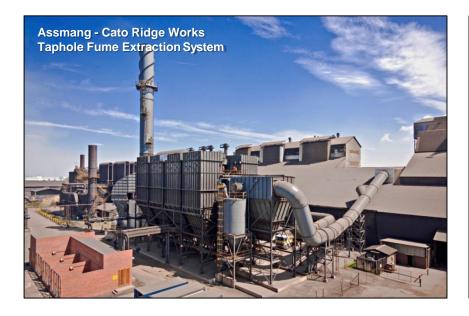


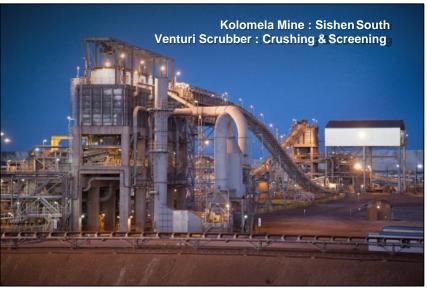
Air Pollution Control



Core Business







Air Pollution Control's core business is the design, manufacture and installation of air pollution control equipment, dust control equipment, gas cleaning and product collection for industrial plants.



Products and Services



Over 45 years in Southern Africa

- Air pollution control
 Gas cleaning
 Dust control systems
 - Product recovery
 Standard products
 - Turnkey systemsPowder processing
 - After-sales service and spares

Air pollution control systems across the spectrum... from engineered systems to unit dust collectors.

- · Reverse pulse bag filters
 - otubular
 - oenvelope
- · Reverse air bag houses
- Wet scrubbers
- Cyclones





- Shaker type filters
- ·Silo vent filters
- Pressurisation units
- Dust suppression
- Powder processing equipment





We offer one of the most comprehensive ranges of air filtration / dust collection products available for emissions control, gas cleaning and product recovery.



Engineered Systems

Complete turnkey systems design and implementation capability including:

- Process analysis
- System design
- Equipment supply
- Installation
- Start-up
- Testing

Combined with years of application experience and global resources, products include:



Pulse Jet Collectors (tubular)

The most widely used bag filter, providing high efficiency collection at a constant pressure drop.







Reverse air baghouses

Used primarily in combustion related applications, these collectors are very effective for various applications involving extremely fine dust with low outlet emissions.



Product collection

Where product is generated in "dust" form our older bag filters serve as an excellent product collector.



Cyclones

High efficiency cyclones are the most cost-effective solution for separating dry particulate (5 microns or larger) from gas streams.





Wet scrubbers

We offer several configurations and a full range of sizes to meet almost any requirement:

- High efficiency venturi scrubbers
- Dynamic scrubbers with integral fan
- Packed towers
- Multi-vane scrubbers
- Multi-venturi scrubbers



Reverse pulse bag filters (envelope):









Standard Products/ Dust Control Systems

John Thompson Air Pollution Control also offers standard products and dust control systems.

The company provides a complete service of design, manufacture and installation of dust control equipment for any type of dust in industrial, mining or commercial environments.







FM Filcomatic (cased units)

Automatic reverse pulse fabric filter designed in modular format to give a compact filter for continuous operation with high dust loads and constant pressure drop.

The flat bags give maximum cloth area with minimum space and the modular construction allows accurate sizing of the filter to design air volume.

FMI Filcomatic (insertable)

The insertable filter is manufactured in a range of sizes from 4 m² to 60 m² of cloth area, with or without integral fan.

The units are designed to be incorporated into other equipment such as pneumatic conveying



systems, silos, conveyor belt transfer points, mills and in fact any application where the collected dust can or needs to be returned to the process.











- Alpine Pin mills, fine impact mills, classifiers, air jet sieves, wide chamber mills, compactors, pelletising systems, briquetting plants
- Schugi High speed agglomeration, mixers
- Rietz Rubber choppers, disintegrators





Our services include:

- Complete system evaluations
- Mechanical equipment review and evaluation
- Conversion and upgrading of equipment
- Equipment refurbishing and rebuilding
- Technical training
- Maintenance training
- Service contracts
- Spare parts



Industries in Which We Operate



- Power generation
- Petrochemical
- Iron & steel
- Dryers
- Coal
- Sugar
- Ferro alloys
- Iron ore

- Mineral sands
- Cement
- Diamonds
- Tyres / rubber
- Foundry
- Gold mining
- Refractory industry
- Industrial boilers









Since establishing our operation in South Africa, we have had orders from major clients, such as:

- AECI
- African Products
- AfriSam
- Alstom Power
- Anglo American
- Anglo Platinum
- ArcelorMittal
- ASA Metals
- Assmang
- Babcock
- BHP Billiton
- Cato Ridge Alloys
- DRA

- Columbus Stainless Steel
- Drytech
- E & PC
- ELB Engineering
- Eskom
- Exxaro
- Ferrometals
- Fluor-Daniel
- Foskor
- Glencore Xstrata
- Hatch
- Heckett
- Hernic
- Ferrochrome

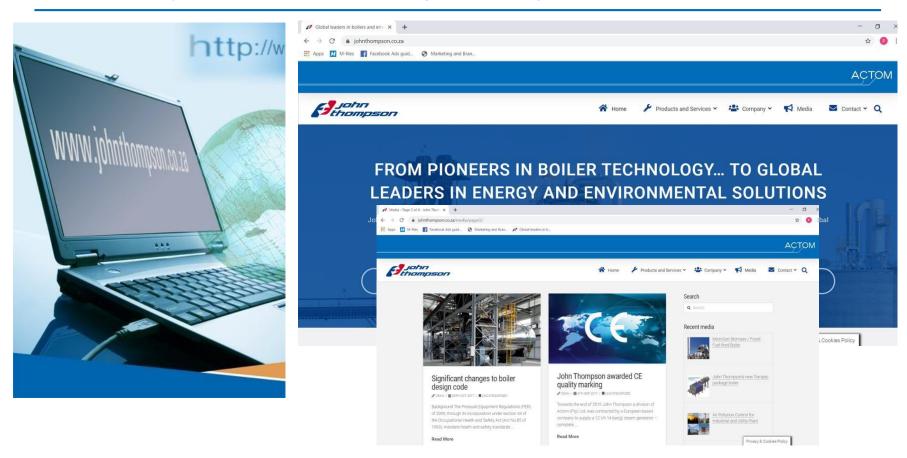
- Hillside Aluminium
- Hulamin
- Impala Platinum
- Kumba Resources
- K'Enyuka
- Lafarge
- Loesche
- Metso
- Moma Mineral Sands
- Mozal
- Murray & Roberts
- Dundee Precious Metals

- Namzinc
- Outotec
- PPC
- Richards Bay Minerals
- Rio Tinto
- Senet
- Sishen Iron Ore
- Samancor
- Sasol
- Scaw Metals
- Tati Nickel
- Tenova Takraf
- Tronox
- Zinchem





John Thompson Website – <u>www.johnthompson.co.za</u>



www.johnthompson.co.za



A Global Leader in Energy and Environmental Solutions Through Value Engineering and Innovation





