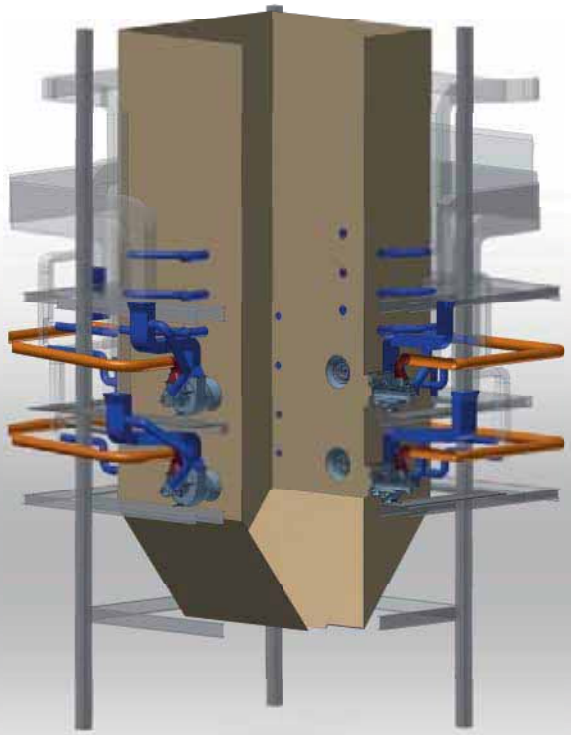
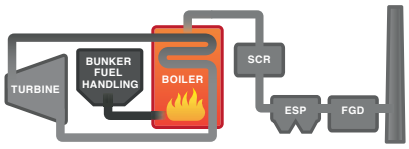
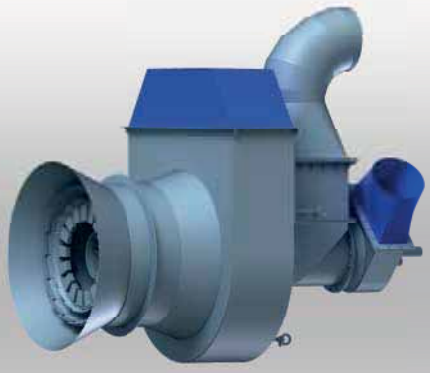
Bituminous Coal and Sub-Bituminous Coal Combustion Systems

steinmüller engineering





SM V®* Coal Burner



Low NO_x Emission
Efficiency Increase
Flexible Operation

Application	Technical Data	Scope of Supply
Power Plants and Industrial Boilers NO_x reduction, extension of fuel range, efficiency increase **Benefits** • Optimized engineering based on CFD-simulation calculations without expensive trials • High availability and efficiency • Increase of operational flexibility • Reliable solution based on decades of experience	Burner Type: SM V®* Coal Burner Burner Capacity: 15 MWth - 100 MWth Emissions: CO < 100 mg/m³ (STP) NO_x < 280 mg/m³ (STP) **Fuel Type** Bituminous Coal Water: 5-38 % ar Ash: 10-40 % ar VM daf: 15-45 % LCV: 12-32 MJ/kg Biomass	• Consultancy • Design of burners • Process engineering • Design of furnace • CFD-Simulations of boiler furnace and combustion system • Supply and installation of firing system components including burners, OFA, etc. • Adaptation of I & C • Commissioning

* ® Registered Trademark **S**taged **M**ixing **B**urner

www.steinmueller.com
Tel. +49 2261 78950-0

steinmüller engineering

Reference List Excerpt

Bituminous Coal Combustion Systems

Scope	Client
Modification and capacity increase of Low-NOx firing system, Bituminous Coal, 330 MWel, Altbach PS, Germany	EnBW Kraftwerke AG, Karlsruhe, Germany
Concept design study for Low-NO_x burner technology, 200-730 MWel, Bituminous Coal, ESKOM'S fleet, South Africa	Eskom Enterprises, Johannesburg, South Africa
Investigation and recovery scope development support after boiler damage, 600 MWel, Bituminous Coal, Duvha PS, South Africa	Eskom Enterprises, Johannesburg, South Africa
Engineering support for manufacturing, installation and commissioning of PF burners, 200 MWel, Bituminous Coal, Camden PS, South Africa	Eskom Enterprises, Johannesburg, South Africa
Boiler design review and study for future change in coal quality, 6x600 MWel, Bituminous Coal, Tutuka PS, South Africa	Eskom Enterprises, Johannesburg, South Africa
Modernization of firing system and extension of coal range, installation of Low-NO_x burners, 500 MWel, Bituminous Coal, Herne PS Unit 4, Germany	STEAG GmbH, Essen, Germany
Design study on coal range extension in supercritical utility boilers, 5x830 MWel, Bituminous Coal, Mundra PS, India	Coastal Gujarat Power Generation, Mumbai, India
Boiler concept study for coal range extension, 465 MWel, Bituminous Coal, CHP Altbach I, Germany	EnBW Kraftwerke AG, Karlsruhe, Germany
Concept study for coal range extension at 6x600 MWel, Bituminous Coal, Duvha PS, South Africa	Eskom Enterprises, Johannesburg, South Africa
Boiler concept study for capacity increase and coal range extension, 330 MWel, Bituminous Coal, CHP II Altbach PS, Germany	EnBW Kraftwerke AG, Karlsruhe, Germany
Modification of the firing system and installation of Low-NO_x burner, 550 MWel, Bituminous Coal, Rheinhafen-Dampfkraftwerk (RDK) PS Unit 7, Germany	EnBW Kraftwerke AG, Karlsruhe, Germany
Conceptual design for adaptation of firing equipment to an extension of acceptable coal specification, 2x100 MWel, Bituminous Coal, Tiefstack PS, Germany	Vattenfall Europe Hamburg AG, Germany
Modification of the firing system and installation of Low-NO_x burner, 700 MWel, Bituminous Coal, Mehrum PS, Germany	Balcke-Dürr GmbH, Ratingen, Germany, for E.ON Power

Legend:

PS – Power Station
PF – Pulverized Fuel
CHP – Heat and power plant
SCR – Selective Catalytic Reduction
STP – Standard Temperature and Pressure
HRSG – Heat Recovery Steam Generator
FGD – Flue Gas Desulphurization
CFB – Circulating Fluidized Bed
ESP – Electrostatic Precipitator

steinmüller
engineering

Steinmüller Engineering GmbH
IHI Group Company
Fabrikstraße 5 • D-51643 Gummersbach • Germany
Tel: +49 2261 78950-0
Fax: +49 2261 78950-199
info@steinmueller.com
www.steinmueller.com

Concept/Layout: tsitrone medien GmbH & Co. KG, Cologne

Edition 2015