John Cockerill’s Denarad Boiler is a single-drum boiler with natural circulation and a vertical flue gas flow. This well-proven design was developed for heavy industrial use and easy maintenance.

- Self-supporting boiler with water cooled furnace walls
- Meets steam equipment design, fabrication and safety regulations for international codes and standards
- All tubes connected to the steam drum and to the headers are welded
- Convection parts (super-heaters, evaporators and economizers) are pre-assembled in the workshop
- Hydro-testing of convection parts performed prior to assembly on-site
- Outer drum designed to enable fast start-up & load changes
- Available cleaning systems – soot blowers, water guns, wall blowers and/ or gravitational bullet cleaning systems
- Capable of meeting stringent low NOx emission requirements, (low NOx burners, flue gas recirculation, SNCR or SCR systems)
Denarad Boilers

Single-Drum Boilers

Main Strengths
- Operational flexibility from 10 to 100% MCR (Maximum Continuous Rate)
- High thermal efficiency up to 97.5% (LHV)
- High availability up to 99.5%
- Low-corrosion design features
- Guaranteed low NOx
- Optional Bundle cleaning systems
- Designed for easy maintenance

Operational Data
- Steam flow 110,000 to 1,100,000 lb/hr
- Pressures 580 to 2,465 psig
- Steam Temperatures up to 1,050 °F

Fuels
- Liquids
  - Heavy fuel oil
  - Light fuel oil
  - Waste liquid fuel
- Gaseous
  - Natural Gas
  - Refinery Gas
  - Waste gas
  - Blast furnace gas
  - Coke oven gas

Our offer
- Process Engineering
  - Process Flow Diagram (PFD)
  - Process and Instrumentation Diagram (P&ID)
  - Risk analyses (HAZOP/SIL)
- Mechanical & Electrical Engineering
  - Steel structure
  - Piping
  - Ducting
  - Insulation and cladding
  - Electrical and Instrumentation (E&I)
- Process Control
  - Burner Controls
  - Boiler Controls
  - Emission Controls
  - ESD, Emergency Shut-down system
- Equipment Engineering
  - Boilers (ASME, EN or DIN codes)
  - Bundle Cleaning with soot blowers, water guns, wall blowers and/or gravitational bullet cleaning systems
  - Rotating equipment (pumps, fans, turbines ...)
  - Flue gas cleaning (DeNOx, DeSOx, bag house, ESP ...)
- EPC Contracting

Certificates
- ISO 9001:2015
- ISO 14001
- ISO 3834-2
- ASME ‘S’ – ‘U’ – ‘PP’

References

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John Cockerill Energy Worldwide:
Belgium – USA – Canada – Mexico – China

Industrial boilers business line
- Erie, PA – USA Tel. +1 502 819 0614
- Belgium Tel. +32 3 860 08 60
industrial.boilers@johncockerill.com