John Cockerill

Denapak Boilers

D-Style Packaged Boilers

Proven Technology

The Denapak is a self-supporting, two drum boiler with water-cooled furnace walls.

- Meets steam equipment design, fabrication and safety requirements (ASME, PED 2014/68/EU or EN codes)
- Natural circulation design, includes integral steam and lower drums
- Flexible, reliable construction
- Seamless tubes form a thorough seal where they meet drums to eliminate heat-affected zones caused by welding
- Evaporator screen protect superheaters against direct radiation
- Optional installed feedwater preheater in the water drum to avoid flue gas condensation
- For increased efficiency, the Denapak is equipped with an economizer
- Preassembled and hydro-tested in the workshop prior to transportation
- For Larger capacity units shop fabrication will be optimized to reduce field erection cost
- Low NOx burners, flue gas recirculation and/or SCR systems can be provided to meet required emissions

As John Cockerill's reference list (see table on reverse) shows, the Denapak has proven to be a strong, and reliable industrial boiler choice for over 50 years.

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Main Strengths

- Operational flexibility: 10 to 100% MCR (Maximum Continuous Rate)
- High thermal efficiency up to 97.5% (LHV)
- High availability up to 99.5%
- Compact boiler design
- Simplified foundation
- Guaranteed low NOx
- Maximized shop assembly

Operational Data

Steam flows: 50,000 to 550,000 lb/hr
Pressures up to 1,015 psig
Steam temperatures up to 1000°F

Fuels

- Heavy fuel oil
- Light fuel oil
- Waste liquid fuel
- Refinery gas
- Waste gas
- Blast furnace gas
- Coke oven gas

References

John Cockerill's DENAPAK Boilers are particularly well suited for the higher demands of Chemical and Petrochemical industries.

Customer	Country	Steam Production (lb/hr)	Design pressure (psig)	Working Pressure (psig)	Temp (°F)
Uniper	Netherlands	485,017	914	-	716
Al Nouran	Egypt	264,555	-	652	842
Kuwait Petroleum Europoort	Netherlands	264,555	797	652	725
Cargill	Belgium	88,185	1058	870	896
Nerefco	Netherlands	286,601	536	435	671
Total Refinery Antwerp	Belgium	132,277	1102	942	770
Mopa 2 / Dcn	France	154,323	739	652	653
CCT	Italy	99,208	914	768	572
Fanapel	Uruguay	132,277	435	319	212
Hydro Agri	France	99,208	1044	870	932
Ancap	Uruguay	132,277	754	609	752
Fanapel	Uruguay	99,208	319	-	752
Bayer Lo	Belgium	55,115	652	580	788
Ministry of Defence	Saudi Arabia	136,686	188	174	Sat.
Belgomilk	Belgium	26,455	362	435	Sat.
Marmara	Turkey	136,686	754	623	797
Henkel Ireland Ltd.	Ireland	26,455	290	232	Sat.
Solvay-Antwerp (John Brown)	Belgium	30,864	638	580	Sat.
Südzucker- Werk Löbau	Germany	66,138	1058	928	896

Our offer

- Boiler Proper with structures/platforms
- Economizer
- External Piping & Ductwork
- Stack
- Burner Systems
- Emissions Control Systems (SCR, FGR, CO)
- Fans & Motors
- Feed Pumps
- Deaerator Skids
- Chemical Feed & Sampling Systems
- Electrical & Instrumentation Systems

Process Control

- Burner Controls
- Boiler Controls
- Emissions Controls
- ESD, Emergency Shut-down System

Equipment Engineering

- Structural/Civil Design
- Piping Design
- Transient (Start-up) Analysis
- CFD Studies
- Design Life Studies

EPC Contracting

Certificates

- ISO 9001:2015
- ISO 14001
- ASME 'S' – 'U' – 'PP'
- VCA Petrochemical

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