



York - Shipley Global

Division of AESYS Technologies, LLC

®

Series 400C and 500C Packaged Firetube Boilers



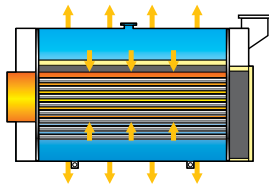
Centerline Furnace Design

Three- and Four-Pass Dry-Back Construction
25 to 1,300 BHP (245 to 12,743 kW)

Series 400C and 500C Packaged Firetube Boilers

York-Shipley Global offers its packaged firetube boiler utilizing a centerline furnace design. Series 400C comprising 4SF-FSHS/BHP and Series 500C comprising 5SF-FSHS/BHP are available as a three- and four-pass, dry-back configuration. All steel fireside surfaces are completely water-backed. York-Shipley Global product is supported through an extensive worldwide network of sales, service and regional management representatives.

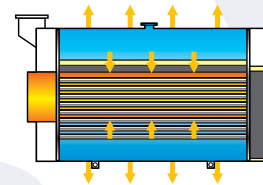
3D - 3-Pass



Uniform Stress Design Increases Unit Life

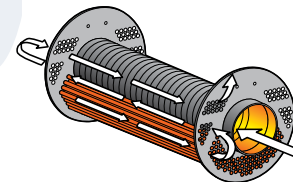
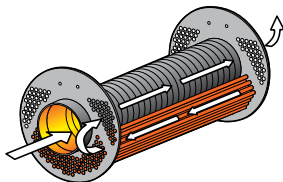
The York-Shipley Global's centerline furnace design incorporates two tube-sheets and a centrally located furnace achieving the most uniform stress for a firetube boiler. This feature therefore increases boiler useful life.

4D - 4-Pass



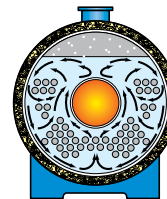
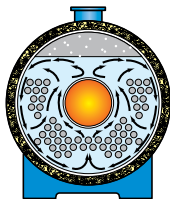
Down-Draft Design Promotes Heat Transfer

Standard three- and four-pass, down-draft design using a smaller number of firetubes in succeeding passes, promotes a high but even velocity of combustion gases and helps to maintain clean firetubes, resulting in maximum heat transfer in the second and third passes.



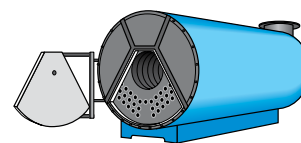
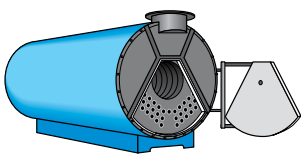
Complete Water Circulation Over All Tubes and Furnace

Natural water circulation is unrestricted, and non-dissolved solids can fall to the bottom evenly. They remain semi-fluid and can be flushed easily through the bottom blowdown maintenance procedures. Thermally induced circulation further reduces material thermal stress, again maximizing service life.



Easily Serviced and Maintained

York-Shipley Global's 3-section rear cover arrangement permits complete accessibility of all firetubes and the furnace. Firetubes may be cleaned or replaced from either end of the boiler, allowing maximum flexibility in boiler room design and boiler location.

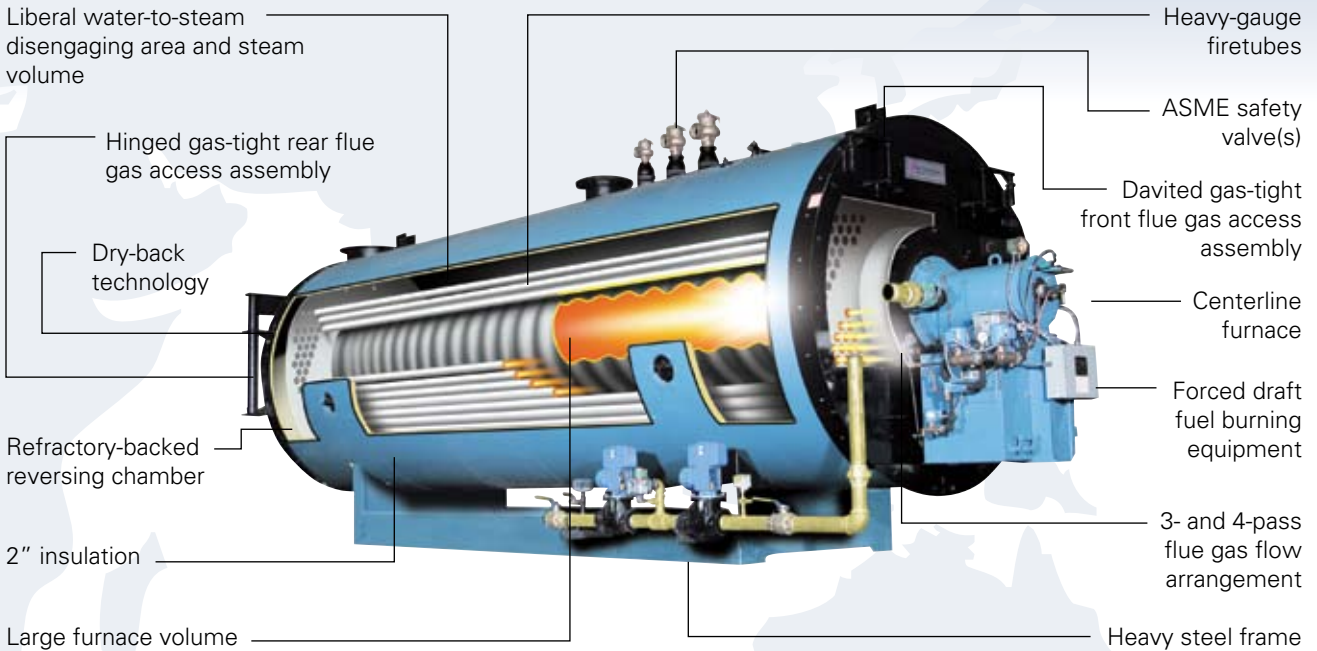


The Most Trusted Name in the Boiler Industry

York-Shipley Global provides one of the most diverse offering of packaged firetube boiler assemblies, together with ancillary boiler room equipment, for an integrated systems approach toward virtually any industrial process and comfort space heat application. In over 60 countries, York-Shipley Global products generate reliable steam and hot water service at sustained operating efficiencies, which meet or exceed established industry codes and standards, affording flexible solutions for your project specific application.

York-Shipley Global is recognized as a renowned world-class manufacturer of various packaged firetube boiler designs. Boiler capacities are available in numerous configurations from 20 to 2,200 BHP (196 to 21,566 kW), at standard design pressures of 15 to 300 PSIG (103 to 2,068 kPa), whether an application requires a packaged firetube boiler assembly in a dry-back or water-back configuration, employing 2-, 3- or 4-pass flue gas flow arrangements or a custom heat recovery steam generation assembly, in a single- to 4-pass design. York-Shipley Global versatility in design and manufacturing is respected and acknowledged as being of utmost quality, delivering high performance, efficiency and long life cycle service in industrial, commercial and institutional facilities worldwide.

Centerline Furnace 3- and 4-Pass Dry-Back Design



Design Features

Standard fuel burning equipment utilizes forced draft natural gas, LPG, digester gas and CS #2 - #6 fuel oil, available in combination fuel input arrangements and can be configured for high elevation and low emission performance applications.

Refractory-backed down-draft flue gas reversing chamber incorporates a fully seal-welded enclosure decreasing thermal stress conditions across the tube-sheet. Material utilized in refractory-backed furnace access is form poured, anchored and cured. Top longitudinal perpendicularly level service platform ensures safe and secure access. Bottom longitudinal inspection trough ensures unencumbered visual access.

York-Shipley Global packaged firetube boiler assemblies are designed and constructed in strict accordance with the most current accepted edition, quality control and material specification requirements of the ASME B&PV Code and registered with NBBPVI. In addition to being available as a cULus Listed packaged boiler assembly, other available compliance standards include FM Global, GAP, ASME CSD-AFB, NFPA and construction suitable for use in NEMA classified indoor or outdoor non-hazardous locations.



Series 400C and 500C Standard Safety, Operation and Level Control Devices	S3D/S4D S050 to S300	H3D/H4D S015	H3D/H4D W030 to W160
Pressure Gauge	•	•	•
Temperature Gauge	N/A	N/A	•
Float-Type LWCO - Pump Control w/ Gauge Glass Assembly	•	•	N/A
Probe-Type LWCO - Manual Reset	•	•	•
High-Pressure Limit Control - Manual Reset	•	•	•†
Operating Pressure Limit Control	•	•	•†
Firing Rate Pressure Control	•	•	•†
Low-Fire Hold Pressure Control	•	•†	•†
Minimum Water Temperature Control	N/A	N/A	•†
ASME Safety Valve(s)	•	•	N/A
ASME Safety Relief Valve(s)	N/A	N/A	•
Single-Point Spring-Loaded Furnace Pressure Relief Device	•	•	•

† Temperature Limit Control

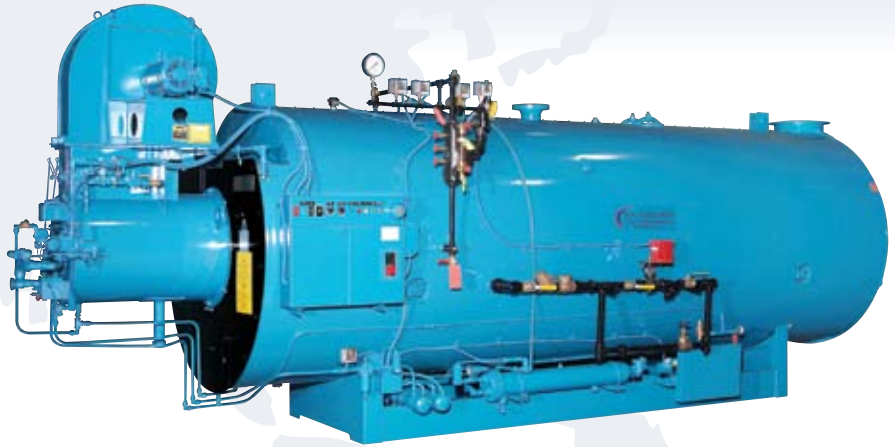
Series 400C

4SF-FSHS/BHP (.037m² - FSHS/kW)

Series 400C

Packaged firetube boiler assemblies incorporating three- and four-pass, centerline furnace, down-draft, dry-back technology and rated at nominal 4SF-FSHS/BHP (.037m² - FSHS/kW). Capacities available from 30 to 1,300 BHP (294 to 12,743 kW) at standard design pressures of 15 to 300 PSIG (103 to 2,068 kPa).

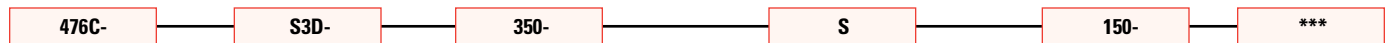
Due to its economical and compact profile, the Y-SG Series 400C is particularly suited for continuous operation where stable process and space heating load demands are available. Moderate furnace heat release rates assure reduced vessel stress and thermal NO_x production. Centerline furnace accommodates uniform vessel stress.



Y-SG Model 476C-S3D-400-S150
Utilizing Y-SG Model FA Heavy-Oil Fuel Burner

Project:
PEPSI-COLA
Beirut, Lebanon

Nomenclature



General Description:

Series 400, 76" Nominal Shell Diameter, Centerline Furnace, ASME SC I, 3-Pass Dry-Back Construction, 350 BHP, Steam Boiler designed at 150 PSIG

Series 400C Nominal Diameter	Dry-Back Construction		Nominal BHP	Generated Medium	MAWP PSIG	***
	3-Pass	4-Pass				
442C-	*3D	-	30, 40, 50, 60	ASME SC I / S= Steam	-050 to -300	
448C-	*3D	-	70, 80, 100			
460C-	*3D	*4D	125, 150, 175			
464C-	*3D	*4D	200, 225, 250	ASME SC IV / S= Steam	-015	
476C-	*3D	*4D	300, 350, 400			
482C-	*3D	*4D	500			
488C-	*3D	*4D	600, 700	ASME SC IV / W= Hot Water	-030 to -160 / 250°F Max	
496C-	*3D	*4D	800, 900			
4112C-	*3D	*4D	1000, 1100, 1200, 1300			

Note: * Designates ASME Code Construction:
S=ASME Section I
H=ASME Section IV

Note: *** May be additionally suffixed for option and/or specification identification



High pressure steam boilers are constructed in accordance with ASME Section I 'Rules for Construction of Power Boilers' at standard design pressures of 50 to 300 PSIG (344 to 2,068 kPa). For design pressure beyond standard offering, please consult factory.

Series 500C

5SF-FSHS/BHP (.046m² - FSHS/kW)

Series 500C

Packaged firetube boiler assemblies incorporating three- and four-pass, centerline furnace, down-draft, dry-back technology and rated at nominal 5SF-FSHS/BHP (.046m²-FSHS/kW). Capacities available from 25 to 1,000 BHP (245 to 9,803 kW) at standard design pressures of 15 to 300 PSIG (103 to 2,068 kPa).

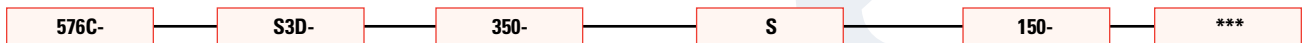
Due to large water content, liberal steam volume and water to steam interface disengaging area, Y-SG Series 500C is particularly suited for continuous or intermittent process and space heating load demand operation. Low furnace heat release rates assure reduced vessel stress and thermal NOx production. Centerline furnace accommodates uniform vessel stress.



Y-SG Model 5112C-S3D-1000-S150
Utilizing FGR Low NOx Reduction System

Project:
CASCADE HARDWOOD
Chehalis, WA USA

Nomenclature



General Description:

Series 500, 76" Nominal Shell Diameter, Centerline Furnace, ASME SC I, 3-Pass Dry-Back Construction, 350 BHP, Steam Boiler designed at 150 PSIG

Series 500C Nominal Diameter	Dry-Back Construction		Nominal BHP	Generated Medium	MAWP PSIG	***
	3-Pass	4-Pass				
542C-	*3D	-	25, 30, 40, 50, 60	ASME SC I / S= Steam	-050 to -300	
548C-	*3D	-	60, 70, 80			
560C-	*3D	*4D	100, 125, 150			
564C-	*3D	*4D	175, 200	ASME SC IV / S= Steam	-015	
576C-	*3D	*4D	250, 300, 350			
582C-	*3D	*4D	400			
588C-	*3D	*4D	500, 600			
596C-	*3D	*4D	700, 800	ASME SC IV / W= Hot Water	-030 to -160 / 250°F Max	
5112C-	*3D	*4D	850, 900, 1000			

Note: * Designates ASME Code Construction:
S=ASME Section I
H=ASME Section IV

Note: *** May be additionally suffixed for option and/or specification identification



Low pressure steam and hot water boilers are constructed in accordance with ASME Section IV 'Rules for Construction of Heating Boilers' limited to design steam pressure of 15 PSIG (103 kPa) and reverse flow hot water service of 30 to 160 PSIG (206 to 1,103 kPa) – maximum 250°F (121°C).



Committed to delivering the highest level of product quality, customer service and satisfaction.

AESYS Technologies, LLC serves North American and International markets with York-Shipley Global packaged firetube boiler assemblies, ancillary boiler room equipment and pressure vessel products. The company also offers Jackson & Church HVAC Global heating, ventilating and air conditioning equipment, along with Custom Fabrication capabilities and Educational Services comprising boiler and welder training programs.

York-Shipley Global and Jackson & Church HVAC Global product brands are recognized for high performance, dependability and utmost quality, providing for long life-cycle service in industrial, commercial and institutional facilities worldwide.

AESYS' strength resides in its commitment and ability to deliver the highest level of product quality, customer service and satisfaction through its product brand offerings and extensive worldwide network of sales, service and regional management representatives.

Corporate headquarters and primary manufacturing facility is strategically located in South Central Pennsylvania, USA - at the crossroads of major highways, rail transportation systems and international shipping ports.

Visit AESYS at www.aesystech.com for more information.



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