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***Pentad Associates, Inc.***

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###### MANUFACTURERS’ REPRESENTATIVE FOR INDUSTRIAL EQUIPMENT

**Boilers**

Firetube & Firebox (Wetback and Dryback) - Pressures up to 300 PSIG

Watertube (up to 500,000 lbs/hr) - Pressures up to 1250 PSIG

Waste Heat (up to 400,000 lbs/hr) - 900 PSIG.; 1-40 MW

Electric and Condensing (500,000-4 MM BTU/hr)

**Burners**

Low NOX / Ultra Low NOX, Gas & Oil (1 to 300 MM BTU/hr)

Duct, Rotary Kiln, Fluid Bed, Radial Wall, Ethylene Cracking; Process Heaters

**Boiler Room Auxiliaries**

Feedwater Systems, Critical Fuel Systems, Chemical Feed Systems

Burner Management & Control Systems

Fans & Dampers, Gas Shut-Off Valves, Safety Relief Valves

**Steam/Gas Turbines & Steam Surface Condensers**

Single & Multi-Stage Steam Turbines and Surface Condensers

Steam Turbine Generators, Gas Turbine Generators

Steam Surface Condensers (10MW to 1000MW output)

**Gas, Air & Water Filtration**

Industrial Water Treatment, Air Pollution Control and Gas & Liquid Filtration Systems; RTO, SCR & Catalytic Oxidation Systems

**Rental & Reconditioned Equipment and Equipment Service**

Heat Exchanger & Boiler Reconditioning, Equipment Rental & Service

Rental Boilers (30 HP to 250,000 PPH), Rental Chillers (20-600 tons)

**Combustion Systems & Monitoring**

CEMS/PEMS Emission Monitoring, Flare Gas Recovery Systems, Thermal Oxidizers, Vapor Control Systems

**Pre-engineered Direct Fired Heaters**

Hot Oil Heaters, Regeneration Gas Heaters, & Vaporization Service (Duties from 2MMBTU/hr to >65MMBTU/hr).

Related heater auxiliary systems including Combustion Management Skids and Hot Oil Circulation Skids

**Custom Designed API 560 Style Fired Heaters**

All general refinery services including Crude & Vacuum Service, Reboilers and Reactor Feed Heaters

**Heater Revamps**

Retubes, Metallurgy Upgrades, Convection Section Replacements, Burner Retrofits, Stack & Damper Replacement, Air Preheater Revamps, Emergency Response

**Fired Heater Performance Studies & Field Services**

Efficiency Optimization Studies, Emissions/NOx Reduction Studies, Heater Tuning, Mechanical Inspections, Start-up & Commissioning

**Feedwater Systems**

Tray and Spray Deaerators (200 to 400000 lbs/hr)

Condensate Tanks, Feedwater Pumps, Blowdown Tanks

**Fans & Dampers**

Butterfly, Guillotine, Louver, Diverters & Tee Dampers;

Centrifugal, Axial Fans

**Controls**

Boiler Management, Combustion Control, Balance of Plant

HDMI Screens and Monitors

**Chemical Feed Systems**

Metering Pumps, Chemical Feed Tanks & Systems

Glycol, Filter & Bypass Feeders

**Industrial Water Treatment**

Condensate Treatment, Reverse Osmosis, Ion Exchange, Clarifiers, Softeners, Simplex, Duplex & Automatic Strainers

**Heat Exchangers & Cooling Towers**

Gasketed Plate & Frame, Welded, Brazed, Double-Wall

Shell & Tube, Fin Fan, Spiral & Air Cooled; Air Dryers & Air Preheaters

**Gas & Steam Turbines**

1.8 MW Gas Turbine GenSet

Standard Single Stage (1 hp-4,000 HP) and Standard Multi-stage,

 (670 hp-9,400 HP)

Engineered Multi-stage (670 HP- 94,000 HP)

Engineered Steam Turbine Generator Sets (1KW - 100 MW)

**Air Pollution Control, Gas & Liquid Filtration**

Pulsejet Fabric Filter Dust Collectors, Venturi & Packed Bed Scrubbers, Tower Packing

Regenerative Thermal Oxidizers (Flameless NOx-Free Abatement), SCR & Catalytic Oxidation Systems; Coalescing Filters; PEMS & CEMS

**Parts, Service, Reconditioning & Upgrades**

Plate & Frame and Shell & Tube Heat Exchangers – All Brands & Sizes

Single & Multi-Stage Steam Turbines – All Brands & Sizes

Boiler Reconditioning

Used & Reconditioned Equipment – Boilers, Chillers, Heat Exchangers, Steam Turbines