

**P-K SONIC®  
HIGH EFFICIENCY,  
COMMERCIAL BOILERS**



Breaking **Barriers.**



**HARSCO**  
INDUSTRIAL  
Patterson-Kelley



# Harsco Industrial Patterson-Kelley continues to create innovative solutions that change the expectations of what a boiler can do.

## The Harsco Industrial Patterson-Kelley difference.

Access to best-in-class technology, the strength of our people, and the reliability of our products are reasons alone to partner with Harsco Industrial Patterson-Kelley. But ultimately, customers rely on us for our commitment to provide the **right** solution with the lowest total cost of ownership in the industry.

### Our Approach

- > Customized solutions through in-depth discovery; focused on customer needs
- > Deployed through experienced Harsco Industrial Patterson-Kelley employees and our authorized resellers

We use a consultative approach. First, we understand your needs, then apply and integrate the boiler solution to best address the heating demand. We ensure that our customers consistently receive the highest level of technical and application support by utilizing over 135 years of experience. Our dedicated employees and factory trained service technicians are always available to deploy these solutions.

# Introducing the P-K SONIC®

Expanding on our stainless reputation

The new **P-K SONIC** stainless, condensing boiler surpasses all expectations in efficiency, size and material design. The P-K SONIC breaks through the limitations of **all other** stainless designs with our revolutionary new **DUET™** technology, an industry-first heat exchanger comprised of two unique chambers designed to optimize the turndown process. This unique design allows the P-K SONIC to operate at 97% efficiency with a 5:1 turndown and ultra-low emissions.

## DUET™ Technology

Efficiency and harmony in design

Equipped with **DUET** technology, the P-K SONIC is the first practical stainless steel design for condensing applications in the industry. The innovative zones were engineered separately using different stainless alloys that, when used together, deliver better heat transfer and higher reliability throughout the condensing process.



SMARTER STAINLESS STEEL DESIGN FOR A LONGER LIFE AND GREATER RELIABILITY



INTEGRATES SEAMLESSLY WITH YOUR EXISTING HYDRONIC SYSTEM

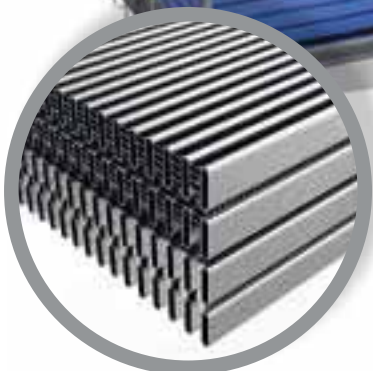


### RADIANT ZONE

Radiant zone is designed with durable, long lasting **304L stainless** for resounding performance in demanding **high stress environments**.

### CONVECTIVE ZONE

Convective zone is designed with super resistant **316L tubes** and **316L ribbon channels** for increased surface volume in a **corrosive environment**.



Harsco Industrial Patterson-Kelley's advanced technology allows production of a complex network of channels individually and precisely fabricated for unmatched heat transfer and efficiency.

Certified

**97%**

efficiency







## Big output in a small space

Refined engineering allows for optimal space management

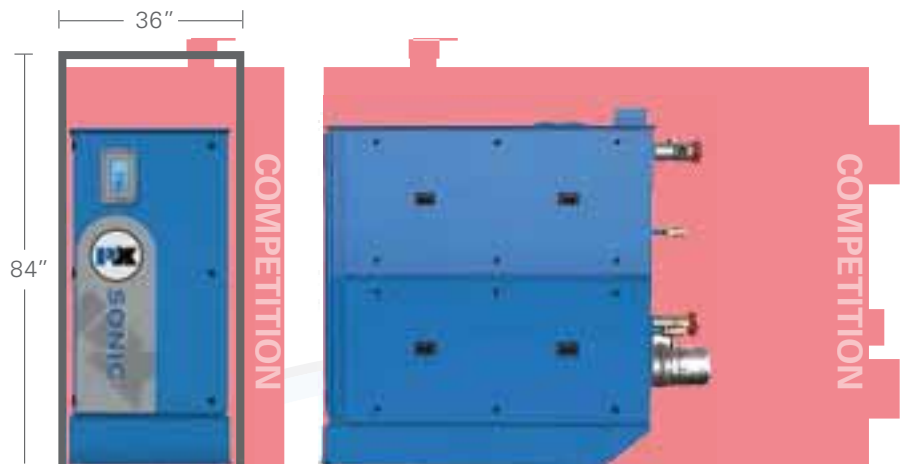
In most cases, there's no rigging required to put your P-K SONIC® condensing boiler in any room of your building, whether it's the basement or the penthouse. All P-K SONIC condensing boilers fit through a standard 36-inch doorway or standard elevator.

## A design that fits

**61%** SMALLER\* THAN THE LEADING COMPETITION

**P-K SONIC™**  
4,000,000 BTU BOILER  
IS ONLY 32" W x 66" D x 65" H

**COMPETITORS**  
4,000,000 BTU  
BOILERS AVERAGE  
40.5-53" W x 109-126" D x 80" H



*The compact footprint fits through a standard doorway and can be installed in mechanical rooms with 8-foot ceilings.*



PERFECT FOR NEW INSTALLATION AND RETROFIT PROJECTS, REQUIRING ONLY 4 HOOK UPS – GAS, WATER, ELECTRIC AND VENTING

Equipped with wheels, the P-K SONIC can be moved by two people without a forklift. The SONIC's narrow design allows it to navigate corners and hallways with ease.



All P-K SONIC boilers include wheels and dollies for easy movement through hallways, doors and around corners.

\* Calculation based on competitor boiler size of 40.5" W x 109" D x 80" H



THE NURO TOUCH SCREEN CONTROL SYSTEM IS DESIGNED TO BE REPOSITIONED TO FACE THE SERVICE TECHNICIAN FOR EASY ACCESSIBILITY DURING MAINTENANCE

EASY ACCESS, HINGED BOILER FRONT DOOR AND EASY LIFT OUT SIDE PANELS AID BURNER SERVICING



## Easier to maintain

Better access and hassle-free service

The P-K SONIC's clean, compact design allows internal components to be accessed with ease, saving time and money associated with repair and maintenance. Front maintenance accessibility encourages annual servicing to increase boiler life and performance.

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## Maximize efficiency with NURO™ touch-screen control system.

Get long-term ROI with this simple to set-up, and easy-to-maintain boiler control system.

The NURO™ touch-screen control system provides the most intuitive interface in the industry. Designed to maximize efficiency, NURO™ monitors and modulates the combustion and ignition of the boiler to maintain the desired outlet temperature. The lead/lag setup and boiler start rotation ensures run times are equally distributed across each unit in the system, extending the life of the boilers.



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**EASY TO USE:** *Touch-screen interface provides simple step-by-step navigation for set-up, maintenance, custom configurations, efficiency, help and more.*

**EASY TO SET-UP:** *Whether installing a single boiler or cascading, with a simple touch, select from a variety of pre-configured settings for optimal system efficiency.*

**EASY TO MAINTAIN:** *Software upgrades provide long-term upgradability, which eliminates hardware replacement and costly service calls.*

The NURO control easily interfaces with building management systems (BMS) via the integrated MODBUS® RS-485 protocol or a 0-10 vdc analog control signal. BACnet, LONWORKS®, and METASYS® N2 are also available by adding a protocol converter for even greater application flexibility.

MODBUS® is a registered trademark of Schneider Automation Inc. LONWORKS® is a registered trademark of Echelon Corporation. METASYS® is a registered trademark of Johnson Controls, Inc.






### Certifications

GE GAP (IRI) GAP.4.1.0  
AND GAP.4.1.3

FM Global 6-4/12-69

 ASME Code Section IV  
Applies to Heating Boilers

 ANSI Z21.13  
CSA 4.9  
Canada (Gas Appliances)  
U.S. (Gas Appliance)

 U.S. Green Building Council  
Member



BOILER RATINGS	SC-1500	SC-2000	SC-3000	SC-4000
EFFICIENCY	96%	96%	96%	96%
MAX BTU/HR INPUT	1,500,000	2,000,000	3,000,000	4,000,000
MAX KW INPUT	439	586	879	1,172
MAX BTU/HR OUTPUT	1,440,000	1,920,000	2,880,000	3,840,000
MAX KW OUTPUT	422	562.6	843.8	1125.1
MIN FLOW @ IGNITION (GPM)	48	48	72	96
MIN FLOW @ IGNITION (LITRES/SEC)	3.03	3.03	4.54	6.06
MIN BTU/HR INPUT	300,000	400,000	600,000	800,000
MIN KW INPUT	88	117.2	175.8	234.4
MIN BTU/HR OUTPUT	288,000	384,000	576,000	768,000
MIN KW OUTPUT	85	112.5	168.8	225
INDOOR/OUTDOOR	Coming Soon	Coming Soon	Coming Soon	Coming Soon
TURNDOWN	5:1	5:1	5:1	5:1
<b>FUEL</b> NG=NATURAL GAS, LP=PROPANE, DF=DUAL FUEL	NG LP	NG LP DF (2015)	NG LP DF (2015)	NG LP DF (2015)

DIMENSIONS	SC-1500	SC-2000	SC-3000	SC-4000
DEPTH (IN / MM)	65 / 875	66 / 1674	66 / 1674	66 / 1674
WIDTH (IN / MM)	31 / 75	32 / 808	32 / 808	32 / 808
HEIGHT (IN / MM)	68 / 5	65 / 1652	65 / 1652	65 / 1652

OPERATING PARAMETERS	SC-1500	SC-2000	SC-3000	SC-4000
BOILER HP	43	57	86.0	114.7
MAX INLET GAS PRESSURE NG/LP (INCHES WC)	14"/14" w.c.	14"/14" w.c.	14"/14" w.c.	14"/14" w.c.
MIN INLET GAS PRESSURE NG/LP (INCHES WC)	4"/7" w.c.	4"/7" w.c.	4"/7" w.c.	4"/7" w.c.
SHIPPING WEIGHT	1400	1400	1900	1900
ELECTRICAL REQUIREMENTS	208/240V 3ph 60hz 20 amps	208/240V 1ph 60hz 15 amps	208/240V 3ph 440/480VAC 3ph 60hz 20 amps	208/240V 3ph 440/480VAC 3ph 60hz 20 amps
OPERATING WEIGHT (LBS / KILOS)	1650	1600 est.	2141	2191
FLOW RATE 20°F ΔT GPM (LT / SEC)	144	192 (13)	285 (18)	384 (25)
FLOW RATE 40°F ΔT GPM (LT / SEC)	72	143 (7)	143 (10)	192 (13)

ACCEPTABLE VENT MATERIALS	SC-1500	SC-2000	SC-3000	SC-4000
AL29-4C	✓	✓	✓	✓
316L SS	✓	✓	✓	✓
PVC	-	-	-	-
CPVC	✓	✓	✓	✓
POLYPROPYLENE* <b>NEW</b>	✓	✓	✓	✓
CAT II	✓	✓	✓	✓
CAT IV	✓	✓	✓	✓

Common venting arrangements include sealed combustion.

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**PROUDLY  
DESIGNED & ASSEMBLED  
IN THE U.S.A.**