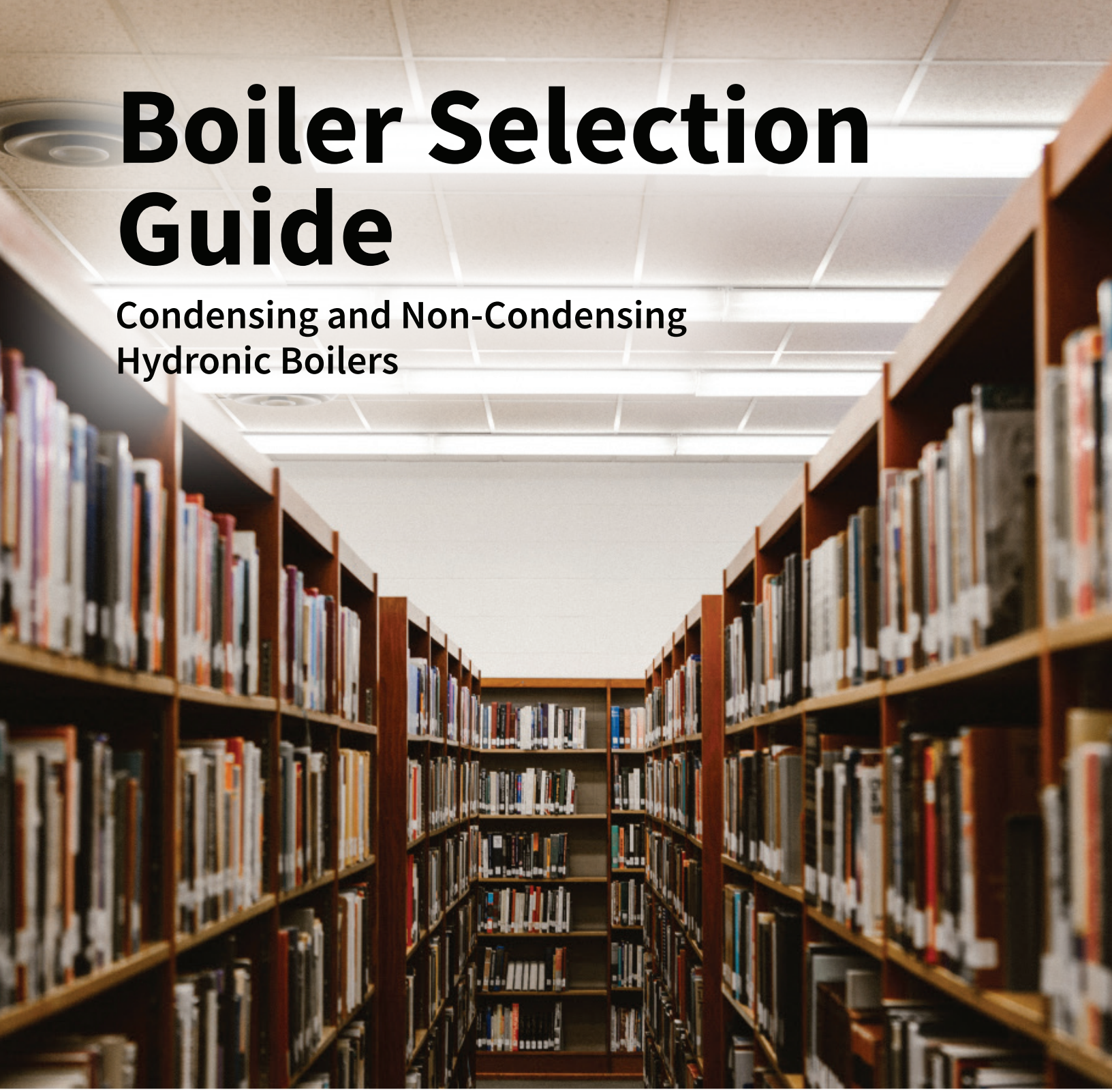
Boiler Selection Guide

Condensing and Non-Condensing Hydronic Boilers



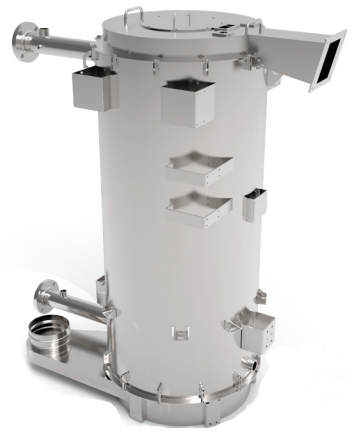
PATTERSON-KELLEY

SOLIS™

Condensing Boilers

ADVANCED FIRETUBE TECHNOLOGY

BOILER RATINGS	SL-725	SL-850	SL-1000	SL-1500	SL-2000	SL-2500	SL-3000
EFFICIENCY	97.7%	97.5%	96%	96%	96%	96%	96%
MAX BTU/HR INPUT	725,000	850,000	1,000,000	1,500,000	2,000,000	2,500,000	3,000,000
MAX KW INPUT	212	249	293	400	586	733	879
MAX BTU/HR OUTPUT	708,000	829,000	960,000	1,440,000	1,920,000	2,400,000	2,880,000
MAX KW OUTPUT	203.98	239.15	281.35	422.0223	562.6965	703.3706	844.0447
MIN FLOW @ IGNITION (GPM)	17.4	20.4	24	33	43	46	46
MIN FLOW RATE (GPM)	1.102	1.292	10	20	20	25	25
MIN BTU/HR INPUT	72,500	85,000	100,000	150,000	200,000	250,000	300,000
MIN KW INPUT	21	25	29	44	59	73	88
MIN BTU/HR OUTPUT	69,600	81,600	96,000	144,000	192,000	240,000	300,000
MIN KW OUTPUT	20.40	23.91	28.13	42.2022	56.2696	70.3370	84.4045
TURNDOWN	10:1	10:1	10:1	10:1	10:1	10:1	10:1
FUEL TYPE (NG, LP, DF)	NG	NG	NG	NG	NG	NG	NG
DIMENSIONS	**SL-725**	**SL-850**	**SL-1000**	**SL-1500**	**SL-2000**	**SL-2500**	**SL-3000**
DEPTH (IN)	38.2	38.2	57	77.3	77.3	80	80
WIDTH (IN)	24.9	24.9	30.2	35	35	35	35
HEIGHT (IN)	49.8	49.8	78.5	80	80	80	80



Compartmentalized Heat Exchanger Design

The stainless-steel heat exchanger in the P-K SOLIS™ is designed to maximize heat and overall efficiency. This 316 stainless steel tube and tube sheet provides extended corrosion resistance to the unit with a 304 SS heat exchanger shell for additional thermal resistance. The vertical firetube design provides single-pass, counter-flow water travel design for efficient heat transfer. Our precision weldments are generously spaced to guard against threats of thermal expansion and thermal shock failures.

NURO® Touch Screen Control System

The **P-K SOLIS™** comes standard with the industry leading NURO® Touch-Screen Control System and NURO® Connect App. These features provide cascading options to optimize efficiency and easily control your boiler at anytime, from anywhere.

SOLIS™

Condensing Boilers

ADVANCED FIRETUBE TECHNOLOGY

OPERATING PARAMETERS	SL-725	SL-850	SL-1000	SL-1500	SL-2000	SL-2500	SL-3000
BOILER HP	21.7	25.4	29.9	44.8	59.7	74.7	89.6
MAX INLET GAS PRESSURE	14	14	14	14	14	14	14
MIN INLET GAS PRESSURE	3.5	3.5	3.5	3.5	3.5	3.5	3.5
SHIPPING WEIGHT (LBS/KILOS)	635	635	1750/795	2445/1111	2445/1111	2650/1204	2650/1204
ELECTRICAL REQUIREMENTS	120V 1PH 60hz 10 amps			208/240V 1PH 60hz 15 amps	208/240V 1PH 60hz 10 amps	220/480V 3PH 60hz 20 amps	220/480V 3PH 60hz 20 amps
OPERATING WEIGHT (LBS/KILOS)	665	665	2150/977	3000/1363	3000/1363	3470/1577	3470/1577
FLOW RATE 20°F ΔT GPM	69.6	81.6	96	144	192	240	288
FLOW RATE 20°F ΔT LPS	4.408	5.168	6.08	9.12	12.16	15.2	18.24

ACCEPTABLE VENT MATERIALS	SL-725	SL-850	SL-1000	SL-1500	SL-1500	SL-1500	SL-1500
AL29-4C	✓	✓	✓	✓	✓	✓	✓
316L SS	✓	✓	✓	✓	✓	✓	✓
PVC	–	–	–	–	–	–	–
CPVC	✓*	✓*	✓*	✓*	✓*	✓*	✓*
POLYPROPYLENE NEW	*/**	*/**	*/**	*/**	*/**	*/**	*/**
CAT II	✓	✓	✓	✓	✓	✓	✓
CAT IV	✓	✓	✓	✓	✓	✓	✓

*Canada: When this material is used for venting , it must be listed ULC-S6236 **USA: When this material is used for venting , it must be listed UL-1738

Simplified Serviceability

The heat exchanger is designed to provide ease of access for simplified and quick maintenance. The heat exchanger door swings open for full access to the tubes and burner inside the unit. This makes maintenance, including cleaning, a quick and cost effective process.

10:1 MECHANICAL TURNDOWN:
ALLOWS FLEXIBILITY TO MATCH INPUT TO BUILDING LOADS, AND DOES NOT INTRODUCE EXCESS AIR ALLOWING MAXIMUM THERMAL EFFICIENCY

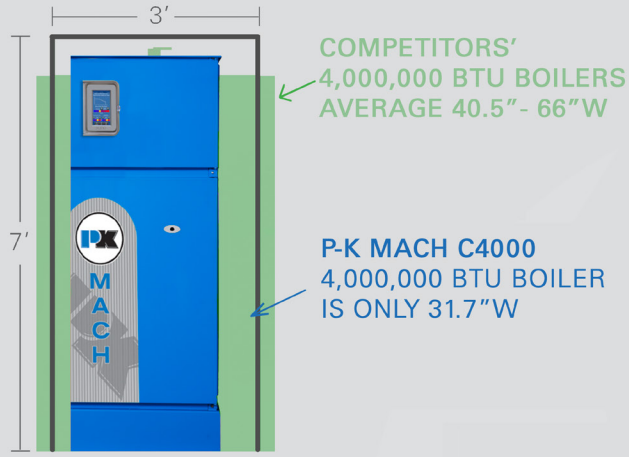
MACH®

Condensing Boilers

BOILER RATINGS	CM300	CM399	CM500	C750	C900	C1050	C1500	C2000	C2500	C3000	C4000
EFFICIENCY	93.0%	93.1%	91.2%	93.9%	93.9%	93.9%	94.3%	95.1%	94.4%	91.1%	94.1%
MAX BTU/HR INPUT	300,000	399,000	500,000	750,000	900,000	1,050,000	1,500,000	2,000,000	2,500,000	3,000,000	4,000,000
MAX KW INPUT	88	116.9	146.5	219.8	263.8	307.7	439.6	586.1	732.7	879.2	1172.3
MAX BTU/HR OUTPUT	279,000	371,469	456,000	704,250	845,100	985,950	1,414,500	1,902,000	2,360,000	2,733,000	3,764,000
MAX KW OUTPUT	82	108.9	133.6	206.4	247.7	289.0	414.5	557.4	691.6	801.0	1103.1
MIN FLOW @ IGNITION (GPM)	16.0	16.5	16.1	39.3	40.9	44.7	69.4	62.4	145.3	128.6	150.9
MIN FLOW @ IGNITION (L/SEC)	1.0	1.0	1.0	2.5	2.6	2.8	4.4	4.0	9.2	8.1	9.6
MIN BTU/HR INPUT	60,000	79,800	100,000	150,000 / 75,000	180,000 / 90,000	210,000 / 105,000	300,000 / 150,000	400,000 / 200,250	500,000	600,000	800,000
MIN KW INPUT	17.6	23.4	29.3	44.0 / 22.0	52.8 / 26.4	61.5 / 30.8	87.9 / 43.9	117.2 / 58.6	146.5	175.8	234.5
MIN BTU/HR OUTPUT	55,800	74,294	91,200	140,850 / 70,425	169,020 / 84,510	197,190 / 98,595	282,900 / 141.450	380,400 / 190.200	472,000	546,600	752,800
MIN KW OUTPUT	16.4	21.8	26.7	41.3 / 20.6	49.5 / 24.8	57.8 / 28.9	82.9 / 41.4	111.5 / 55.7	138.3	160.2	220.6
INDOOR/OUTDOOR	INDOOR	INDOOR	INDOOR	INDOOR / OUTDOOR	INDOOR / OUTDOOR	INDOOR / OUTDOOR	INDOOR	INDOOR	INDOOR	INDOOR	INDOOR
TURNDOWN	5:1	5:1	5:1	5:1/10:1*	5:1/10:1*	5:1/10:1*	5:1/10:1*	5:1/10:1*	5:1	5:1	5:1
FUEL NG=NATURAL GAS, LP=PROPANE, DF=DUALFUEL	NG LP	NG LP	NG LP	NG LP DF	NG LP DF	NG LP DF	NG LP DF	NG LP DF	NG LP DF	NG LP DF	NG LP DF
DIMENSIONS	**CM300**	**CM399**	**CM500**	**C750**	**C900**	**C1050**	**C1500**	**C2000**	**C2500**	**C3000**	**C4000**
DEPTH (IN / MM)	21.75/552	21.75/552	42.625 / 1083	42.625 / 1083	42.625 / 1083	66.25 / 1756	72.5 / 1920	58.325 / 1483	58.325 / 1483	62.5 / 1587.5	62.5 / 1587.5
WIDTH (IN / MM)	36.5 / 927	36.5 / 927	28.125 /713	28.125 /713	28.125 /713	30.25 / 769	30.25 / 769	31.75 / 806	31.75 / 806	31.75 / 806	31.75 / 806
HEIGHT (IN / MM)	34 / 862	34 / 862	54.625 / 1387	54.625 / 1387	54.625 / 1387	56 / 1423	56 / 1423	78.75 / 2000	78.75 / 2000	78.75 / 2000	78.75 / 2000

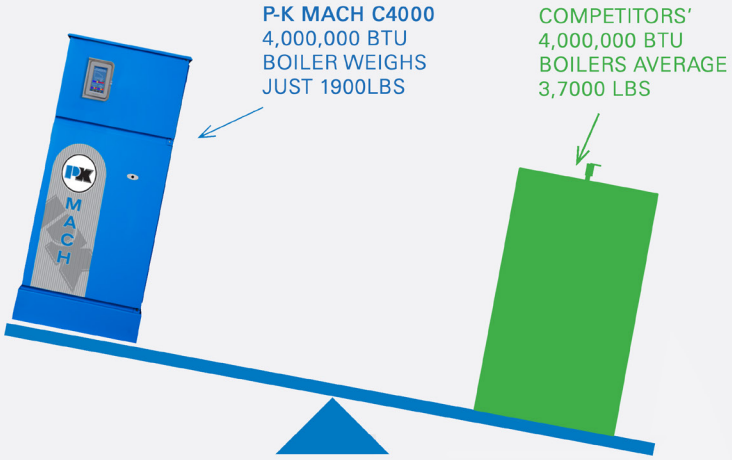
**P-K MACH® Models C750, C900, C1050, C1500 and C2000 with 10:1 mechanical turndown are only available for Indoor Natural Gas (NG) applications.*

Smaller.



ALL P-K MACH BOILERS FIT THROUGH A STANDARD 36" DOORWAY.

Lighter.



MACH®

ALUMINUM TECHNOLOGY

OPERATING PARAMETERS	CM300	CM399	CM500	C750	C900	C1050	C1500	C2000	C2500	C3000	C4000
BOILER HP	8.3	11.0	13.7	21.0	25.0	30.0	43.0	57.0	72.0	85.0	114.0
MAX INLET GAS PRESSURE NG/LP (INCHES / WC)	14 / 14	14 / 14	14 / 14	14 / 14	14 / 14	14 / 14	14 / 14	14 / 14	14 / 14	14 / 14	14 / 14
MIN INLET GAS PRESSURE NG/LP (INCHES / WC)	3.5 / 7	3.5 / 7	6 -or- 3.5 / 7	3.5 / 7	3.5 / 7	3.5 / 7	3.5 / 7	3.5 / 3	3 / 7	4.5 / 7	3 / 7
MAX OPERATING PRESSURE (psig / kPa)	80 / 552	80 / 552	80 / 552	80 / 552	80 / 552	80 / 552	125 / 862	125 / 862	125 / 862	125 / 862	125 / 862
SHIPPING WEIGHT (LBS / KILOS)	420 / 191	445 / 202	445 / 202	735/ 333	790 / 358	820 / 372	1330 / 603	1630 / 740	1550 / 703	1600 / 726	2100/ 953
ELECTRICAL REQUIRMENTS	120V 1ph 60hz <8 amps	120V 1ph 60hz <8 amps	120V 1ph 60hz <8 amps	120V 1ph 60hz <5 amps	120V 1ph 60hz <5 amps	120V 1ph 60hz <5 amps	120V 1ph 60hz <15 amps	120V 1ph 60hz <15 amps	120V 1ph 60hz <17 amps	204/240V 3ph 60hz 480V 3ph 60hz <20 amps	204/240V 3ph 60hz 480V 3ph 60hz <20 amps
OPERATING WEIGHT (LBS / KILOS)	290 / 132	313 / 142	313 / 142	695 / 315	735 / 222	780 / 254	1200*/ 612 *add 100 lbs for DF models	1600 / 726	1550 / 703	1600 / 726	1900 / 862
FLOW RATE 20°F ΔT GPM (L/SEC)	28 / 1.8	37 / 2.3	46 / 2.9	70 / 4.4	85 / 5.4	99 / 6.3	141 / 8.9	190 / 12.0	236 / 14.9	273 / 17.3	376 / 23.8
INLET VENT DIAMETER (IN / MM)	5 / 127	5 / 127	5 / 127	6 / 152.4	8 / 203.2	8 / 203.2	10 / 254	10 / 254	10 / 254	10 / 254	10 / 254
EXHAUST VENT DIAMETER (IN / MM)	4 / 101.6	4 / 101.6	4 / 101.6	6 / 152.4	8 / 203.2	8 / 203.2	10 / 254	10 / 254	10 / 254	10 / 254	10 / 254
ACCEPTABLE VENT MATERIALS	**CM300**	**CM399**	**CM500**	**C750**	**C900**	**C1050**	**C1500**	**C2000**	**C2500**	**C3000**	**C4000**
AL29-4C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
316L SS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PVC	--	--	--	--	--	--	--	--	--	--	--
CPVC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
POLYPROPYLENENEW	✓	✓	✓	✓	✓	✓	✓	✓	✓	--	--
CAT II	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CAT IV	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Patterson-Kelley understands the importance of water quality.
We have teamed up with expert chemists to provide
Water Quality Standards for Peak Efficiency.

Check out ***aluminumboilers.com*** for more information.

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 721.13
CSA 4.9

Canada (Gas Appliances)
U.S. (Gas Appliance)

U.S. Green Building Council Member

Insurance Evolved FM Global

Connect from anywhere, anytime
using the NURO® Connect App.

STORM®

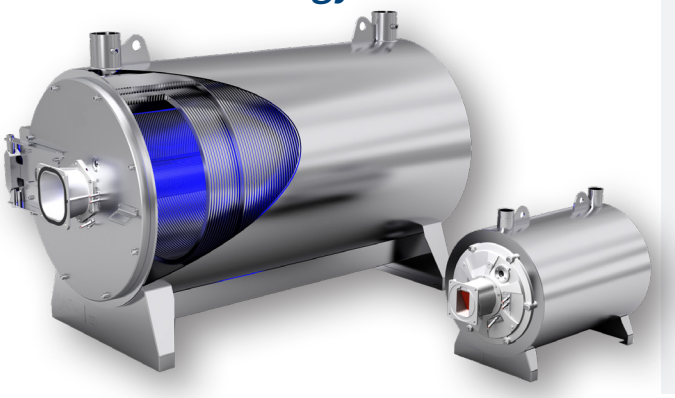
Condensing Boilers

STAINLESS STEEL TECHNOLOGY

BOILER RATINGS	ST650	ST800	ST1000	ST1250	ST1500	ST1750	ST2000	ST2500	ST3000	ST3500	ST4000	ST5000	ST6000	ST8000
EFFICIENCY	96%	96%	96%	97%	97%	97%	97%	97%	97%	97%	97%	97%	97%	95.5%
MAX BTU/HR INPUT	650,000	800,000	1,000,000	1,250,000	1,500,000	1,750,000	2,000,000	2,500,000	3,000,000	3,500,000	4,000,000	4,999,999	6,000,000	8,000,000
MAX KW INPUT	190	234.5	293.1	366	439.6	512.8	586	1250	732.6	1025.7	1172.2	1465.4	1758.4	2344.6
MAX BTU/HR OUTPUT	624,650	765,600	964,000	1,212,500	1,455,000	1,697,500	1,940,000	2,425,000	2,910,000	3,395,000	3,880,000	4,824,999	5,820,000	7,640,000
MAX KW OUTPUT	183.1	224.4	282.5	355.3	426.4	497.4	568.5	710.6	852.8	994.9	1137.1	1421.4	1705.7	2239.1
MIN FLOW @ IGNITION (GPM)	17.85	21.87	27.5	35	42	49	55	69	83	97	111	139	166	172
MIN FLOW @ IGNITION (LITRES/SEC)	1.13	1.4	1.7	2.2	2.6	3.1	3.5	4.4	5.3	6.1	7	8.8	10.5	10.9
MIN BTU/HR INPUT	65,000	80,000	100,000	125,000	150,000	175,000	200,000	250,000	300,000	350,000	400,000	500,000	600,000	800,000
MIN KW INPUT	19.1	23.4	29.3	36.6	43.9	51.2	58.6	73.2	87.9	102.5	117.2	146.5	176	234.5
MIN BTU/HR OUTPUT	62,465	76,560	96,400	120,625	144,750	168,875	193,000	242,500	291,000	339,500	388,000	485,000	582,000	764,000
MIN KW OUTPUT	18.31	22.4	28.2	35.3	42.4	49.5	56.6	71	85.2	99.4	113.7	142.1	170.6	223.9
INDOOR/OUTDOOR	INDOOR/ OUT-DOOR	INDOOR/ OUT-DOOR	INDOOR/ OUTDOOR	INDOOR/ OUTDOOR	INDOOR/ OUTDOOR	INDOOR/ OUTDOOR	INDOOR/ OUTDOOR	INDOOR	INDOOR	INDOOR	INDOOR	INDOOR	INDOOR	INDOOR
TURNDOWN	10:1/5:1	10:1/5:1	10:1/5:1	10:1	10:1	10:1	10:1	10:1	10:1	10:1	10:1	10:1	10:1	10:1
FUEL - NG=NATURAL GAS	NG/LP	NG/LP	NG/LP	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG
DIMENSIONS	**ST650**	**ST800**	**ST1000**	**ST1250**	**ST1500**	**ST1750**	**ST2000**	**ST2500**	**ST3000**	**ST3500**	**ST4000**	**ST5000**	**ST6000**	**ST8000**
DEPTH (IN / MM)	58/1482	58/1482	58/1482	62 / 1581	62 / 1581	62 / 1581	62 / 1581	68 / 1736	68 / 1736	90/ 2286	90 / 2286	103/2616	103/2616	103/2616
WIDTH (IN / MM)	26.1/664	26.1/664	26.1/664	34 / 867	34 / 867	34 / 867	34 / 867	44 / 1121	44 / 1121	44 / 1121	44 / 1121	44/1118	44/1118	44/1118
HEIGHT (IN / MM)	45.7	45.7	45.7	59 / 1504	59 / 1504	59 / 1504	59 / 1504	67 / 1697	67 / 1697	67 / 1697	67 / 1697	73/1854	73/1854	73/1854

**P-K STORM® Models ST650-ST2000 are available from the factory as outdoor models*

The Most Advanced Stainless Steel Technology on the Market



NURO® Touch Screen Control System

The **P-K STORM™** comes standard with the industry leading NURO® Touch-Screen Control System and NURO® Connect App. These features provide cascading options to optimize efficiency and easily control your boiler at anytime, from anywhere.

STORM®

Condensing Boilers

STAINLESS STEEL TECHNOLOGY

OPERATING PARAMETERS	ST650	ST800	ST1000	ST1250	ST1500	ST1750	ST2000	ST2500	ST3000	ST3500	ST4000	ST5000	ST6000	ST8000
BOILER HP	19	24	24	36	43	50	57	72	87	101	116	149	179	239
MAX INLET GAS PRESSURE NG (INCHES WC)	14	14	14	14	14	14	14	14	14	14	14	14	14	14
MIN INLET GAS PRESSURE NG (INCHES WC)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
SHIPPING WEIGHT (LBS/KILOS)	663/301	705/321	770/350	1070 / 485.3	1150 / 521.6	1220/ 553.3	1220 / 553.3	2200 / 998	2200 / 998	2600 / 1179	2600 / 1179	3200/1452	3200/1452	3200/1452
ELECTRICAL REQUIREMENTS	120V 1ph 60hz <6 amps	120V 1ph 60hz <6 amps	120V 1ph 60hz <10 amps	208/240V 1ph 60hz 20 amps	208/240V 1ph 60hz 20 amps	208/240V 1ph 60hz 20 amps	208/240V 1ph 60 hz 20 amps	208 -240/480V 3ph 60hz 30/15 amps	208 -240/480V 3ph 60hz 30/15 amps	208 -240/480V 3ph 60hz 30/15 amps	208 -240/480V 3ph 60hz 30/15 amps	208 -240/480V 3ph 60hz 30/15 amps	208 - 240/480V 3ph 60hz 30/15 amps	208 -240/480V 3ph 60hz 30/15 amps
OPERATING WEIGHT (LBS/KILOS)	625	660/301	705/321	1112/ 504.3	1208 / 547.9	1305/ 592	1305 / 592	2329 / 1056	2329 / 1056	2772 / 1257	2772 / 1257	3700/1678	3700/1678	3700/1678
FLW RATE 20°F ΔT GPM (LT/SEC)	62.5/4	76.6/4.8	96.4/6.1	121 / 7.7	145 / 9.2	170 / 11	194 / 12	242 / 15	291 / 18.4	339.5 / 21.5	388 / 25	485/31	582/37	764/48
ACCEPTABLE VENT MATERIALS	**ST650**	**ST800**	**ST1000**	**ST1250**	**ST1500**	**ST1750**	**ST2000**	**ST2500**	**ST3000**	**ST3500**	**ST4000**	**ST5000**	**ST6000**	**ST8000**
AL29-4C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
316L SS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PVC	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CPVC *	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
POLYPROPYLENE NEW	*/**	*/**	*/**	*/**	*/**	*/**	*/**	*/**	*/**	*/**	*/**	*/**	*/**	*/**
CAT II	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CAT IV	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

*Canada: When this material is used for venting , it must be listed ULC-S6236 **USA: When this material is used for venting , it must be listed UL-1738

EQUIP OUTDOOR TECHNOLOGY

Factory assembled and tested for outdoor installations with efficiencies up to 97% and 10:1 mechanical turndown rate. Available on models ST1250 - ST2000

STORM® CERTIFICATIONS

COMPLIANT WITH ALL MAJOR REBATE PROGRAMS

ASME Code Section IV

Applies to Heating Boilers

AHRI CERTIFIED® www.ahridirectory.org *

Globally Recognized. Industry Respected.

*

ANSI Z21.13

CSA 4.9

Canada (Gas Appliances)

U.S. (Gas Appliance)

*Models ST1250 - ST2000

South Coast AQMD

SONIC®

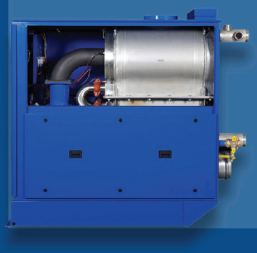
Condensing Boilers

BOILER RATINGS	SC-650 SCD-650	SC-750 SCD-750	SC-850 SCD-850	SC-1000 SCD-1000	SC-1500	SC-2000	SC-3000	SC-4000
EFFICIENCY	94.1%	94.1%	94.1%	92.3%	97.1%	96.4%	96.9%	96.0%
MAX BTU/HR INPUT	650,000	750,000	850,000	1,000,000	1,500,000	2,000,000	3,000,000	4,000,000
MAX KW INPUT	190.5	219.8	249.1	293.1	439.6	586.1	879.2	1172.3
MAX BTU/HR OUTPUT	611,650	705,750	799,850	923,000	1,456,500	1,928,000	2,907,000	3,840,000
MAX KW OUTPUT	179.3	206.8	234.4	270.5	426.9	565.0	852.0	1125.4
MIN FLOW @ IGNITION	25	25	30	30	48	48	72	96
MIN FLOW @ IGNITION (L/SEC)	1.6	1.6	1.9	1.9	3.0	3.0	4.6	6.1
MIN BTU/HR INPUT	125,000	125,000	141,000	143,000	300,000	400,000	600,000	800,000
MIN KW INPUT	36.6	36.6	41.3	41.9	87.9	117.2	175.8	234.5
MIN BTU/HR OUTPUT	122,300	117,600	131,850	133,300	288,000	384,000	576,000	768,000
MIN KW OUTPUT	35.8	34.5	38.6	39.1	84.4	112.5	168.8	225.1
INDOOR/OUTDOOR	INDOOR	INDOOR	INDOOR	INDOOR	INDOOR	INDOOR	INDOOR	INDOOR
TURNDOWN	5:1	6:1	6:1	7:1	5:1	5:1	5:1	5:1
FUEL NG=NATURAL GAS, LP=PROPANE, DF=DUALFUEL	NG LP DF	NG LP DF	NG LP DF	NG LP DF	NG LP DF	NG LP DF	NG LP DF	NG LP DF
DIMENSIONS	**SC-650 SCD-650**	**SC-750 SCD-750**	**SC-850 SCD-850**	**SC-1000 SCD-1000**	**SC-1500**	**SC-2000**	**SC-3000**	**SC-4000**
DEPTH (IN / MM)	54 / 1372	54 / 1372	54 / 1372	54 / 1372	65 / 1651	65/ 1651	66 / 1674	66 / 1674
WIDTH (IN / MM)	25 /641	25 /641	25 /641	25 /641	31 / 787	31 /787	32 / 808	32 / 808
HEIGHT (IN / MM)	51 / 1295	51 / 1295	51 / 1295	51 / 1295	69 / 1743	69 / 1743	69 / 1743	69 / 1743

BIG OUTPUT. SMALL DESIGN.

Easily fits through a standard 36-inch doorway and navigates corners and hallways with ease.

COMPETITION SIZE



A design that fits

60%

*SMALLER THAN THE LEADING COMPETITION

*Calculation based on competitor boiler size of 40.5"Wx109"Dx80"H

SONIC®

STAINLESS STEEL TECHNOLOGY

OPERATING PARAMETERS	SC-650 SCD-650	SC-750 SCD-750	SC-850 SCD-850	SC-1000 SCD-1000	SC-1500	SC-2000	SC-3000	SC-4000
BOILER HP	18	21	24	28	43	57	86	115
MAX INLET GAS PRESSURE NG/LP (INCHES / WC)	14 / 14	14 / 14	14 / 14	14 / 14	14 / 14	14 / 14	14 / 14	14 / 14
MIN INLET GAS PRESSURE NG/LP (INCHES / WC)	3.5 / 7	3.5 / 7	3.5 / 7	3.5 / 7	4 / 7	4 / 7	4 / 7	4 / 7
MAX OPERATING PRESSURE (psig / kPa)	160 / 1103	160 / 1103	160 / 1103	160 / 1103	160 / 1103	160 / 1103	160 / 1103	160 / 1103
SHIPPING WEIGHT (LBS / KILOS)	780 / 354	780 / 354	800 / 363	810 / 367	1400 / 635	1400 / 365	1900 / 862	1900 / 862
ELECTRICAL REQUIRMENTS	120V 1ph 60hz 10 amps	120V 1ph 60hz 10 amps	120V 1ph 60hz 10 amps	120V 1ph 60hz 10 amps	208/240V 1ph 60hz 15 amps	208/240V 1ph 60hz 15 amps	208/240V 3ph 440/480V 3ph 60hz 20 amps	208/240V 3ph 440/480V 3ph 60hz 20 amps
OPERATING WEIGHT (LBS / KILOS)	780 / 354	780 / 354	800 / 363	810 / 367	1650 / 748	1650 / 748	2141 / 971	2191 / 994
FLOW RATE 20°F △T GPM (L/SEC)	61/ 3.9	71 / 4.5	80 / 5.0	92 / 5.9	146/ 9.2	193 / 12.2	291 / 18.4	384 / 24.3
INLET VENT DIAMETER (IN / MM)	6 / 152.4	6 / 152.4	6 / 152.4	6 / 152.4	12 / 304.8	12 / 304.8	12 / 304.8	12 / 304.8
EXHAUST VENT DIAMETER (IN / MM)	6 / 152.4	6 / 152.4	6 / 152.4	6 / 152.4	10 / 254	10 / 254	10 / 254	10 / 254
ACCEPTABLE VENT MATERIALS	**SC-650 SCD-650**	**SC-750 SCD-750**	**SC-850 SCD-850**	**SC-1000 SCD-1000**	**SC-1500**	**SC-2000**	**SC-3000**	**SC-4000**
AL29-4C	✓	✓	✓	✓	✓	✓	✓	✓
316L SS	✓	✓	✓	✓	✓	✓	✓	✓
PVC	--	--	--	--	--	--	--	--
CPVC	✓	✓	✓	✓	✓	✓	✓	✓
POLYPROPYLENENEW	* / **	* / **	* / **	* / **	✓	✓	✓	✓
CAT II	✓	✓	✓	✓	✓	✓	✓	✓
CAT IV	✓	✓	✓	✓	✓	✓	✓	✓

**Canada: when this material is used for venting, it must be listed ULC-26236*
***USA: when this material is used for venting, it must be listed UL-1738*

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

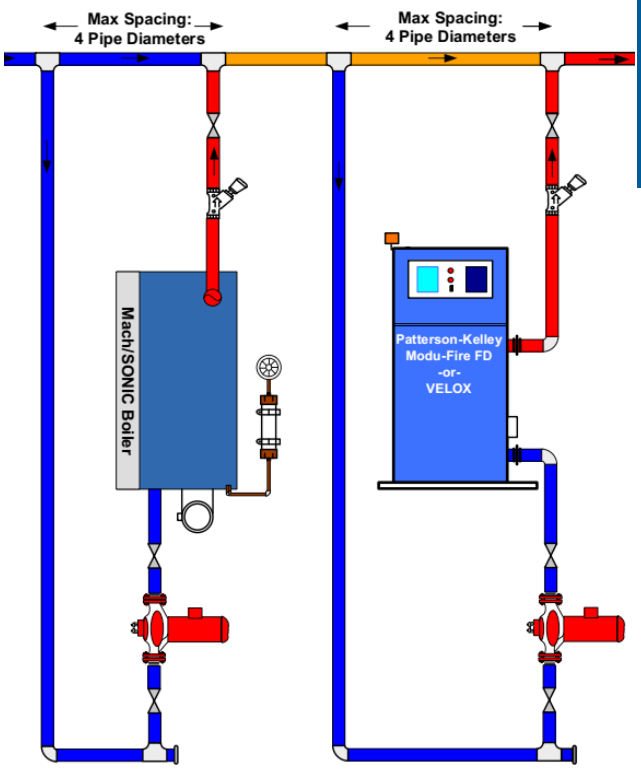
Insurance Evolved FM Global

State of the art
NURO® Control System

THERMIFIC VELOX™ & MFD™

Non-Condensing Boilers

BOILER RATINGS	750-MFD	1000-MFD	1500-MFD	2000-MFD	2500-MFD	3000-MFD	750-VX	1000-VX	1500-VX	1700-VX	2000-VX
EFFICIENCY	85.0%	85.0%	85.0%	85.0%	84.9%	84.9%	85.0%	85.0%	85.0%	85.0%	85.0%
MAX BTU/HR INPUT	750,000	1,000,000	1,500,000	2,000,000	2,500,000	3,000,000	750,000	1,000,000	1,500,000	1,700,000	2,000,000
MAX KW INPUT	219.8	293.1	439.6	586.1	732.7	879.2	219.8	293.1	439.6	498.2	586.1
MAX BTU/HR OUTPUT	637,500	850,000	1,275,000	1,700,000	2,122,500	2,547,000	637,500	850,000	1,275,000	1,445,000	1,700,000
MAX KW OUTPUT	186.8	249.1	373.7	498.2	622.0	746.5	186.8	249.1	373.7	423.5	498.2
MIN FLOW @ IGNITION (GPM)	60	80	90	170	165	165	60	80	90	100	120
MIN FLOW @ IGNITION (L/SEC)	3.8	5.1	5.7	10.8	10.5	10.5	3.8	5.1	5.7	6.3	7.6
MIN BTU/HR INPUT	150,000	166,000	250,000	335,000	500,000	500,000	604,000	610,000	1,005,000	1,050,000	1,100,000
MIN KW INPUT	44.0	48.6	73.3	98.2	146.5	146.5	177.0	178.8	294.5	307.7	322.4
MIN BTU/HR OUTPUT	127,500	141,100	212,500	284,750	424,500	424,500	513,400	518,500	854,250	892,500	935,000
MIN KW OUTPUT	37.4	41.4	62.3	83.5	124.4	124.4	150.5	152.0	250.4	261.6	274.0
INDOOR/OUTDOOR	YES/OPTIONAL	YES/OPTIONAL	YES/OPTIONAL	YES/OPTIONAL	YES/OPTIONAL	YES/OPTIONAL	YES/OPTIONAL	YES/OPTIONAL	YES/OPTIONAL	YES/OPTIONAL	YES/OPTIONAL
TURNDOWN	5:1	6:1	6:1	6:1	5:1	6:1	1.2:1	1.6:1	1.5:1	1.6:1	1.8:1
FUEL NG=NATURAL GAS, LP=PROPANE, DF=DUALFUEL	NG LP	NG LP	NG LP	NG LP	NG	NG	NG LP	NG LP	NG LP	NG LP	NG
DIMENSIONS	**750-MFD**	**1000-MFD**	**1500-MFD**	**2000-MFD**	**2500-MFD**	**3000-MFD**	**750-VX**	**1000-VX**	**1500-VX**	**1700-VX**	**2000-VX**
DEPTH (IN / MM)	34 / 864	34 / 864	34 / 864	34 / 864	54 / 1372	54 / 1372	34 / 864	34 / 864	34 / 864	34 / 864	34 / 864
WIDTH (IN / MM)	27 / 679	27 / 679	27 / 679	27 / 679	32 / 813	32 / 813	27 / 679	27 / 679	27 / 679	27 / 679	27 / 679
HEIGHT (IN / MM)	47 / 1,181	47 / 1,181	62 / 1,476	62 / 1,476	68 / 1,727	68 / 1,727	47 / 1,181	47 / 1,181	62 / 1,476	62 / 1,476	62 / 1,476



Hybrid designs provide efficiency and flexibility.

Take advantage of NURO® to improve performace and create a diverse system setup.

✓ LOCALIZED BMS

For those applications which require system control but are not wanting to add an additional layer of control complexity.

✓ VALVE CONTROL

The ability to control valves for primary only installations as well as for ASHRAE 90.1 requirements.

✓ HYBRID SYSTEM

Utilize both condensing and non-condensing boilers for more effective system operation during design heating days as well as shoulder seasons.

THERMIFIC VELOX™ & MFD™

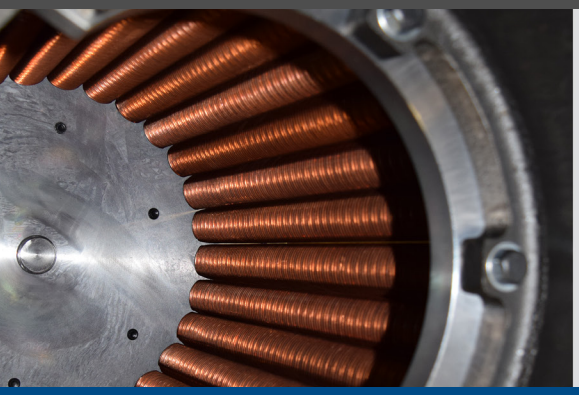
COPPER TECHNOLOGY

OPERATING PARAMETERS	750-MFD	1000-MFD	1500-MFD	2000-MFD	2500-MFD	3000-MFD	750-VX	1000-VX	1500-VX	1700-VX	2000-VX
BOILER HP	19	25.4	38	50.8	63.4	76.1	19	25.4	38	43.2	50.8
MAX INLET GAS PRESSURE NG/LP (INCHES / WC)	14	14	14	14	14	14	14	14	14	14	14
MIN INLET GAS PRESSURE NG/LP (INCHES / WC)	3.5 / 7	3.5 / 7	4 / 7	3.5 / 7	4 / NA	4 / NA	3.5 / 7	3.5 / 7	4 / 7	3.5 / 7	3.5 / 7
MAX OPERATING PRSSURE (psig / kPA)	160 / 1103	160 / 1103	160 / 1103	160 / 1103	160 / 1103	160 / 1103	160 / 1103	160 / 1103	160 / 1103	160 / 1103	160 / 1103
SHIPPING WEIGHT (LBS / KILOS)	750 / 340	750 / 340	920 / 417	935 / 424	1200 / 544	1200 / 544	750 / 340	750 /340	920 / 417	935 / 424	935 / 424
ELECTRICAL REQUIRMENTS	208-240V 1ph 60hz 10 amps	208-240V 1ph 60hz 10 amps	208-240V 1ph 60hz 15 amps	208-240V 1ph 60hz 15 amps	208-240V 1ph 60hz 20 amps	208-240V 1ph 60hz 20 amps	208-240V or 120V 1ph 60hz 10 amps	208-240V or 120V 1ph 60hz 10 amps	208-240V or 120V 1ph 60hz 15 amps	208-240V or 120V 1ph 60hz 15 amps	208-240V or 120V 1ph 60hz 15 amps
OPERATING WEIGHT (LBS / KILOS)	800 / 363	800 / 363	985 / 447	985 / 447	1,217 / 552	1,217 / 552	800 / 36	800 / 362	985 / 447	985/ 447	985 / 447
FLOW RATE 20°F △T GPM (L/SEC)	65 / 4.1	85 / 5.4	130 / 8.2	170 / 10.7	220 / 13.9	265/ 16.7	65 / 4.1	85 / 5.4	130 / 8.2	145 / 9.2	170 / 10.7
INLET VENT DIAMETER (IN / MM)	8 / 203.2	8 / 203.2	8 / 203.2	8 / 203.2	10 / 254	10 / 254	8 / 203.2	8 / 203.2	8 / 203.2	8 / 203.2	8 / 203.2
EXHAUST VENT DIAMETER (IN / MM)	5 / 127	5 / 127	6 / 152.4	6 / 152.4	10 / 254	8 / 203.2	5 / 127	5 / 127	6 / 152.4	6 / 152.4	6 / 152.4
ACCEPTABLE VENT MATERIALS	**750-MFD**	**1000-MFD**	**1500-MFD**	**2000-MFD**	**2500-MFD**	**3000-MFD**	**750-VX**	**1000-VX**	**1500-VX**	**1700-VX**	**2000-VX**
AL29-4C	✓	✓	✓	✓	✓	✓	Note 1	Note 1	Note 1	Note 1	Note 1
316L SS	✓	✓	✓	✓	✓	✓	Note 1	Note 1	Note 1	Note 1	Note 1
PVC	--	--	--	--	--	--	--	--	--	--	--
CPVC	--	--	--	--	--	--	--	--	--	--	--
POLYPROPYLENE[NEW]	--	--	--	--	--	--	--	--	--	--	--
CAT I	--	--	--	--	--	--	✓	✓	✓	✓	✓
CAT II	✓	✓	✓	✓	✓	✓	--	--	--	--	--
CAT IV	✓	✓	✓	✓	✓	✓	--	--	--	--	--

Note 1: Ensure flue material is suitable for Category 1 applications.

All P-K Thermific VELOX® and MFD™ boilers come standard with Patterson-Kelley's NURO® control system. Advanced features such as cascade sequencing and building management system integration via MODBUS® protocol makes it easy to set up and manage boilers, even when used in a hybrid system design with P-K MACH® condensing boilers.

MODBUS® is a registered trademark owned by Schneider Automation Inc.



Certifications

GE GAP (IRI) GAP4.1.0
AND GAP4.1.3

FM Global 6-4/12-69

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Applies to Heating Boilers

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Canada (Gas Appliances)
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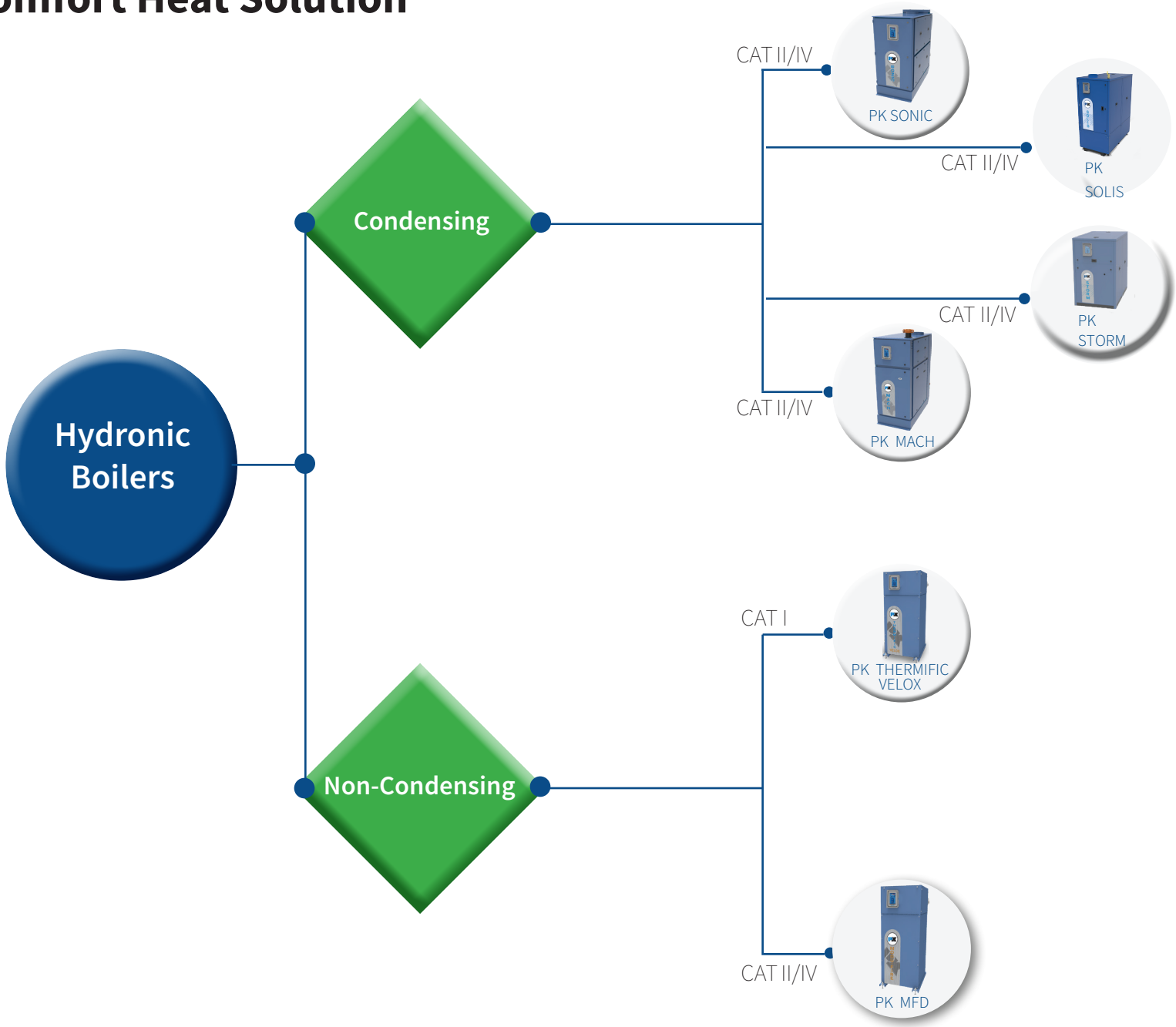
State of the art NURO® Control System

Find your P-K Comfort Heat Solution



The Patterson-Kelley Experience

Patterson-Kelley, a division of SPX Corporation, is the leading provider and producer of commercial hot water heating solutions. With over 135 years of experience and an innovative R&D pipeline, we provide a full line of condensing and non-condensing boilers, semi-instantaneous water heaters, and an array of commercial boiler and water heating products including gas fired, dual fuel and outdoor boilers.

Because we are continuously evolving our products, descriptions and technical data are subject to change without notice. Contact your local Patterson-Kelley representative for the most up-to-date information and product application support.

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