ENERPRO

EPN - EPW Series

CONDENSING HIGH EFFICIENCY BOILERS AND WATER HEATERS

EPN-EPW 1000-1500-2000-2600-3300-4200 MBH

EPN-EPW

Enerproboilers.com

- Stainless Steel 316 Ti water tube heat exchanger
- Heavy duty patented design
- Domestic Hot Water heater model EPW
- SIX sizes ranging from 1000 TO 4200 MBH
- Low NOx design

ENGINEERED
FOR RELIABILITY
DESIGNED
FOR PERFORMANCE

Brochure cover 4 X EPN-4200 MBH

TECHNOLOGY AND PERFORMANCE

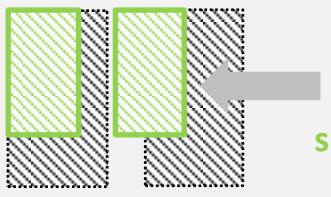
Durability and reliability

Today's standards for high-efficiency boilers and water heaters in commercial buildings are performance and durability. The ENERPRO "EPN and EPW SERIES" are the products of many years of experience in condensing technology. Because of its **coiled water tube design**; less stress is created on the welds; therefore durability and reliability are significantly increased. The ENERPRO heat exchanger carries a **10-year non-prorated warranty.**

No Thermal shock

The durability of the ENERPRO EPN and EPW heat exchanger is second to none. Whether it is for heating applications with extreme conditions and large ΔT's; for example in ground source heat pump systems or domestic hot water heating with cold return temperatures, thermal shock is never a concern. We guarantee it. With this assurance, you can design hydronic heating and hot water systems with smaller pumps and piping without the need for expensive and maintenance prone 3-way valves.

The increased heat transfer of the patented coiled water tube heat exchanger results in a more compact heating appliance. This smaller footprint allows greater flexibility when designing a new or reconfiguring an existing boiler room. The ENERPRO EPN and EPW boilers and water heaters are on average 30% smaller than a non-condensing boiler. With the EPW water heaters series, your energy cost for potable water heating drops dramatically along with saving precious floor space in the mechanical room.



Save 30% to 50% Floor space inside the boiler room

Old Boilers

New Enerpro EPN Boilers

RELIABILITY THROUGH INNOVATION

ENERPRO “EPN and EPW SERIES” **fully water-cooled** combustion chamber hosts a high quality knitted metal stainless steel fibre burner and premix configuration. The use of a high quality gas valve and fan assembly allows a 10:1 turn-down ratio for maximum combustion control and reduced short cycling of the boiler. With precise combustion control any unique patented heat exchanger design, the ENERPRO “EPN and EPW” are able to maintain low CO2 levels which maximizes natural gas condensation. Ultra-Low NOx and Ultra-Low CO emissions are standard with the ENERPRO “EPN”.

EPN-EPW SERIES 1000-1500-2000-2500-3300-4200 Features*

*Model shown with premix burner option-standard version with Riello, Powerflame or Pendell burners

The high quality fan assembly and gas valve block result in superior boiler control and turndown ratio and reduced short cycling. Standard on premix models.

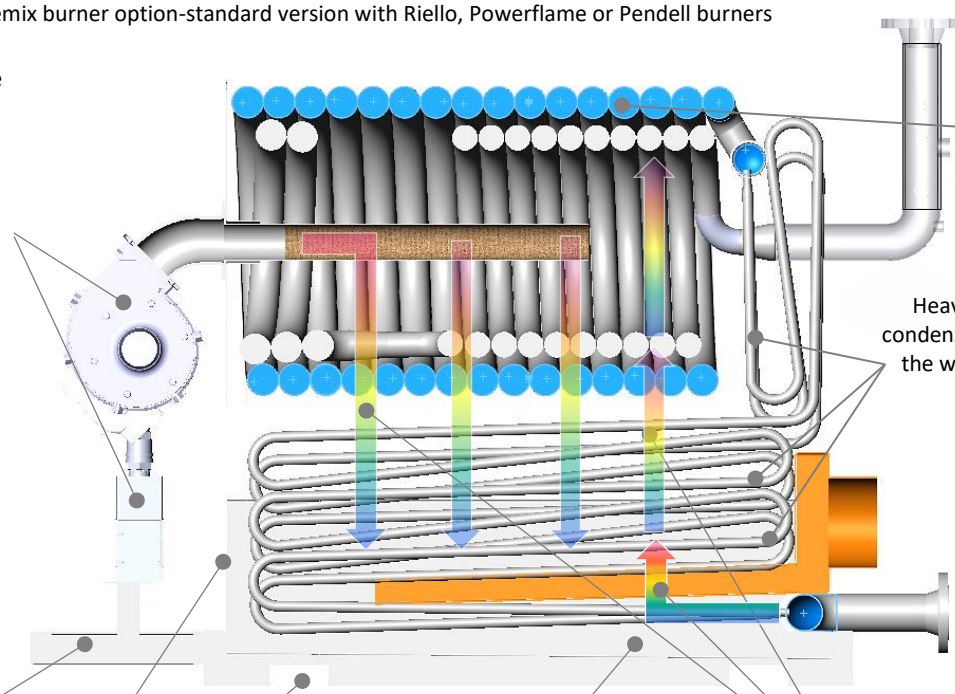
7’’ Touch Screen high definition colour LCD standard on premix models

Easy access to boiler controls.

A robust frame and casing allows for easy handling and stability when the boiler is put in place.

Easy access for Maintenance

Built-in lifting slots for forklift or Trans-pallet.



Heavy gauge primary water tube heat exchanger design

Heavy gauge 316TI condensing portion of the water tube heat exchanger

Heavy gauge stainless steel drain pan built to resist low PH corrosive condensate coming from the combustion and the vent.

Counter-flow direction between flue gas and return water inside the EPN Patented heat exchanger design create the condensation process.

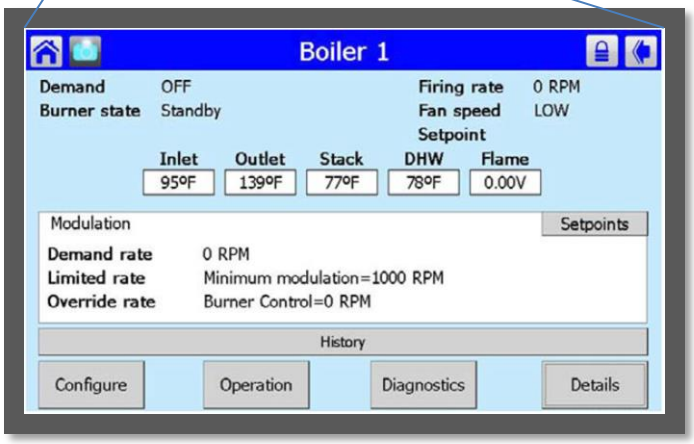
STATE OF THE ART
BOILER CONTROL

ENERPRO "EPN and EPW SERIES" boilers and water heater models are available with the Honeywell Sola boiler control system. The Sola allows for **quick and easy set-up and boiler start-up**. The user-friendly touchscreen controller provides simplified monitoring and diagnostics. Programming allows multiple boiler control configurations (up to eight boilers in **LEAD/LAG sequencing and DHW priority**). The Sola controller allows remote monitoring, fault history, trend analysis and boiler status. The Sola can communicate via 3-wire RS-485 in ModBus™ protocol, BACnet IP, BACnet MS/TP, LonWorks and Metasys N2 using the PROTONODE Gateway option for communication with a Building Management System (BMS).

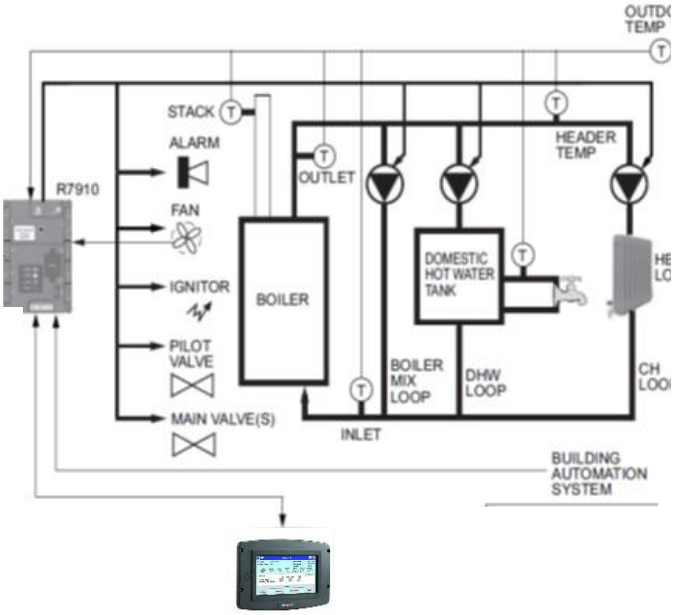
SOLA Control Features

- **Primary Flame Safe Guard**
- **P.I.D Logic control for both heating and DHW (2 loop controls)**
- **Pump control: 3 outputs, 5 different programmable features**
- **15 Item Fault and Alert Code History including equipment status at time of lockout**
- **Lead/Lag up to 8 boilers**
- **Digital inputs**
- **Digital outputs**
- **High limit control**
- **Central Heating, DHW and Stack temperature monitoring.**
- **Simultaneous hard wire control connections and/or MODBUS®, LonWorks®, BACnet IP, BACnet MS/TP communication.**

Honeywell Touch Screen S7999D 1006 Large 7" High Definition color LCD.



ENERPRO "EPN AND EPW SERIES" boiler info screen allows quick analysis and diagnostic of boiler and DHW information and status.

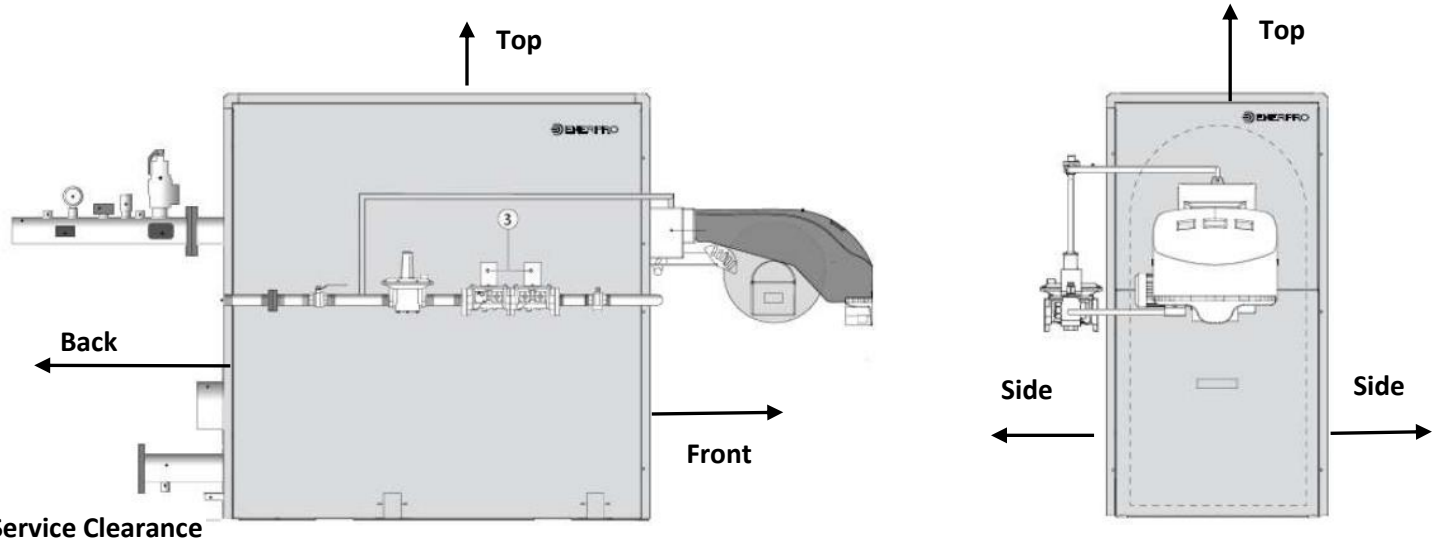


Heating and Indirect DHW loop and pump control.

MODBUS® is a registered trademark of Schneider Automation Inc. LonWorks® is a registered trademark of Echelon Corporation.

Engineering Info and Service Clearance

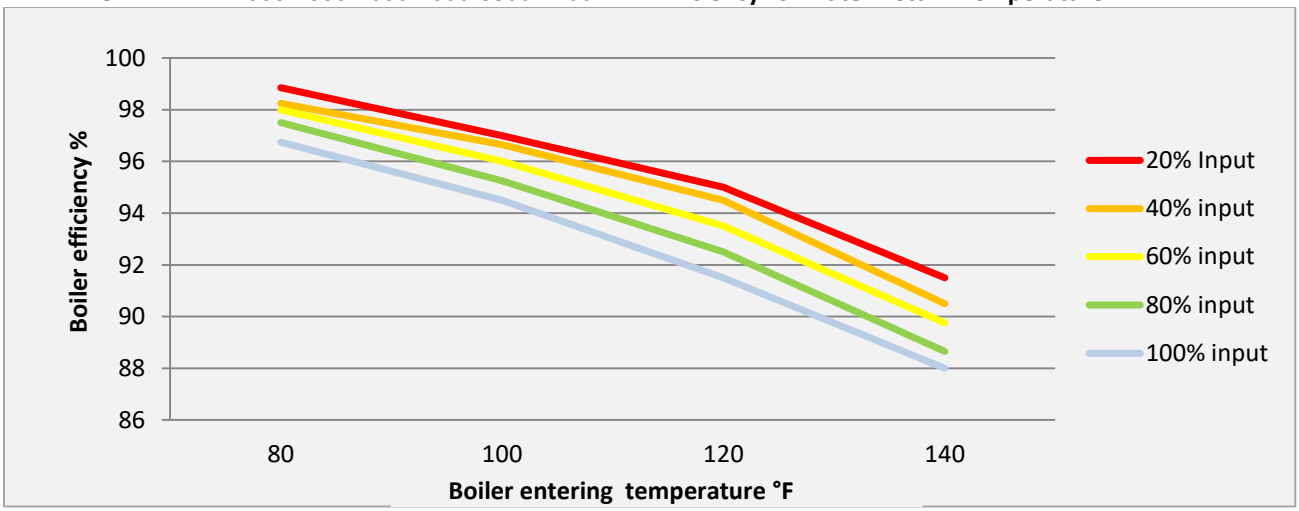
ENERPRO EPN / EPW Series 1000-1500-2000-2600-3300-4200



Service Clearance

Model	TOP	SIDE	GAS TRAIN SIDE	FRONT*	BACK
EPN-W 1000	12''	6''	24''	36'' + Burner Length (RS28)	24''
EPN-W 1500	12''	6''	24''	36'' + Burner Length (RS38)	24''
EPN-W 2000	12''	6''	24''	36'' + Burner Length (RS50)	24''
EPN-W 2500	12''	6''	24''	36'' + Burner Length (RS70)	24''
EPN-W 3300	12''	6''	24''	36''+ Burner Length (RS100)	24''
EPN-W 4200	12''	6''	24''	36'' + Burner Length (RS100)	24''
*Consult local jurisdiction for service clearance in front of burner					

ENERPRO EPN-EPW 1000-1500-2000-2600-3300-4200MBH Efficiency vs. Water Return Temperature



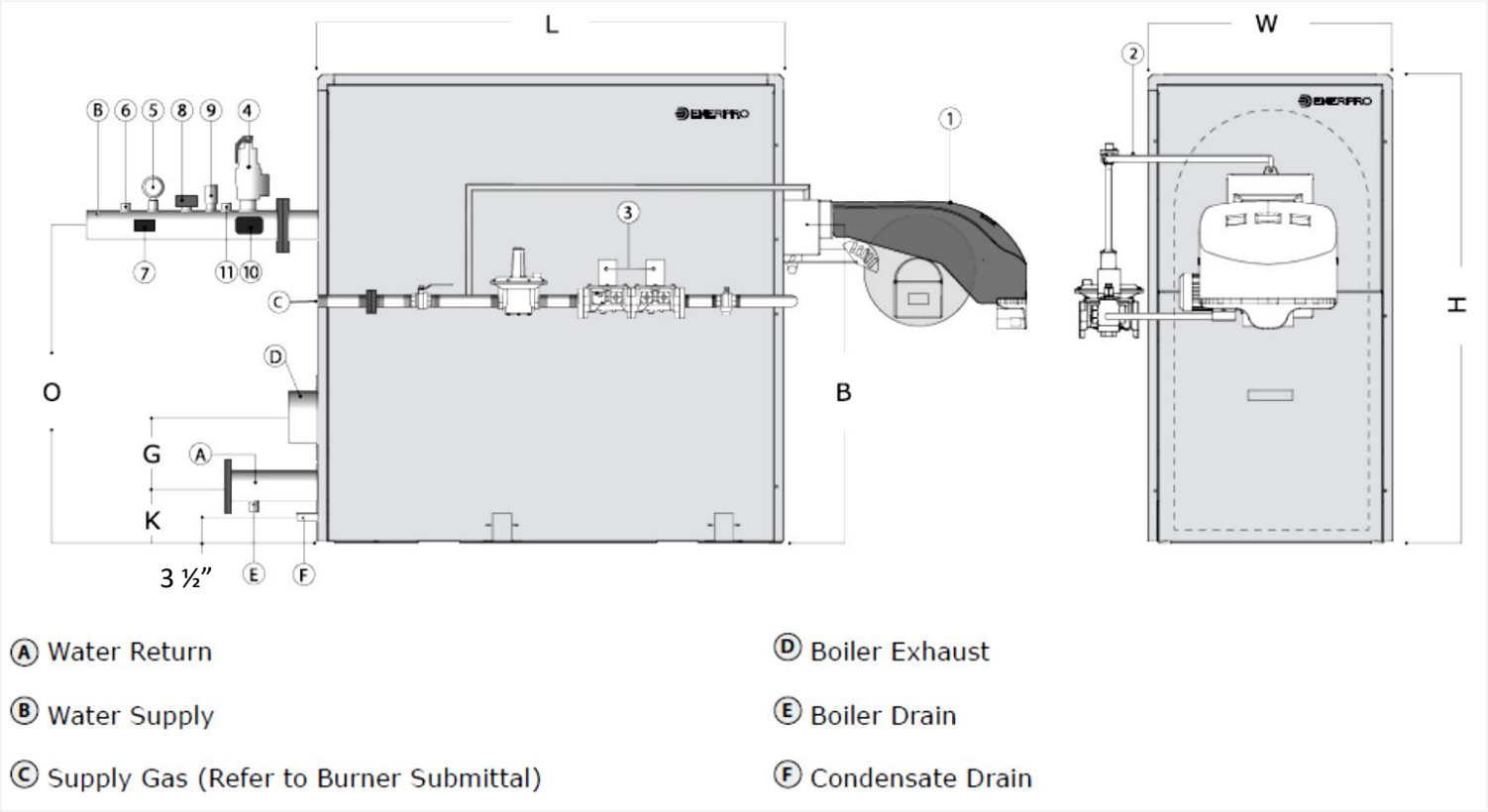
EPW Domestic Hot Water Heater Recovery rate

Rate in gallons per hour (GPH) at which hot water at the indicated ΔT (°F) temperature is produced.

Model	40°F	50°F	60°F	70°F	80°F	90°F	100°F	120°F	140°F
EPW 1000	3000	2625	2250	2175	1500	1350	1200	1050	900
EPW 1500	4800	4200	3600	3000	2400	2160	1920	1680	1440
EPW 2000	5940	5197	4702	3940	2970	2670	2370	2070	1770
EPW 2500	7139	6246	5652	4735	3570	2928	2850	2487	2127
EPW 3300	9425	8245	7460	6250	4712	3865	3760	3285	2808
EPW 4200	11992	10487	9495	7950	5960	4918	4785	4180	3574

Physical Dimensions*

ENERPRO EPN / EPW Series 1000-1500-2000-2600-3300-4200



Ⓐ Water Return

Ⓑ Water Supply

Ⓒ Supply Gas (Refer to Burner Submittal)

Ⓓ Boiler Exhaust

Ⓔ Boiler Drain

Ⓕ Condensate Drain

REF	DESCRIPTION	SIZE	REF	DESCRIPTION	SIZE
1	Riello burner (refer to burner submittal for specifications)	-	7	High Temperature Limit	½”
2	Burner pilot (refer to burner submittal)	-	8	Flow Switch	1”
3	Main gas valves (refer to burner submittal)	-	9	Air Vent	¾”
4	Pressure Relief Valve	1”	10	Low Water Cut Off	¾”
5	Temperature Pressure Gauge	½”	11	Spare Connection	¾”
6	Temperature Sensor	½”			

BOILER MODEL	L	W	H	B	D	G	K
EPN/EPW1000	55.5“	31”	56”	38”	38”	15.25”	6.75”
EPN/EPW1500	62”	35.5”	64”	41”	41”	15.25”	6.75”
EPN/EPW2000	68”	35.5”	64”	41”	41”	17”	6.75”
EPN/EPW2600	72.5”	35.5”	66”	46.25”	46.25”	19”	6.75”
EPN/EPW3300	81”	35.5”	66”	47”	47”	19”	6.75”
EPN/EPW3300L	77”	39”	70”	47”	47”	19”	6.75”
EPN/EPW4200	88”	47”	78”	53”	53”	20.5”	8.25”

*Dimensions shown are for standard models, consult factory for Premix option.

Technical Specifications

ENERPRO EPN / EPW Series 1000-1500-2000-2600-3300-4200MBH

EPN/EPW Model		1000	1500	2000	2600	3300	4200
Performance Data	**unit**						
Maximum gas input	MBH (kw)	1000(294)	1500(440)	2000(587)	2600(762)	3300(968)	4200(1232)
Maximum Heat Output	MBH (kw)	945(278)	1420(417)	1890(554)	2457(720)	3118(915)	3970(1165)
Minimum Heat Output	MBH (kw)	94.5(27.8)	142(41.7)	189(55.4)	245.7(72)	312(91.5)	39.7(11.7)
Gross output at 104°F supply / 86 °return (40°C /30°C)	MBH (kw)	975(286)	1462(428)	2378(698)	2535(743)	3218(943)	4095(1200)
Gross output at 176°F supply / 140 °return (80°C /60°C)	MBH (kw)	880(258)	1320(387)	1760(516)	2288(671)	2905(851)	3696(1085)
Boiler horsepower	H.P.	28.95	43.4	57.9	75.2	95.5	122
Natural gas rated combustion efficiency 100°F return	%	94.5	94.5	94.5	94.5	94.5	94.5
Natural gas rated thermal efficiency(net) 100°F return	%	94.2	94.2	94.2	94.2	94.2	94.2
Firing sequence - turndown ratio		Standard 5:1 Full modulation - 10:1 with Premix burner					
General Data							
Boiler category		Condensing					
Heat exchanger construction		Stainless Steel/Titanium 316 Ti / Stainless steel 316L					
Heating surface area water side	ft²(m²)	128.5(11.9)	208(19.3)	248(23)	322.5(29.9)	408.7(37.9)	519(48)
Maximum allowable working pressure MAWP	PSIG (Bar)	160 PSI					
Water content	Us. Gallons(Liters)	30(114)	45(170)	60(227)	82(310)	90.5(341)	120(455)
CSA Approved burners	Brand	Riello – Powerflame- Fuel Master(Pendell)					
CSA Riello approved burners		RS-28M	RS-38M	RS-50M	RS-70M	RS-100M	RS-100M
Available burner type	Type	Standard force draft / Premix burner option available					
Boiler operating control		Honeywell Sola R910A and other available options (RWF-55, Reliable controls)					
Touch screen		Honeywell 7" S7999D1006 and other available options					
Weight dry	Lbs.(kg)	1100(500)	1500(680)	1950(880)	2400(1090)	2650(1180)	3740(1698)
Shipping weight	Lbs.(kg)	1340(609)	1750(795)	2250(1020)	2650(1200)	2900(1315)	4000(1818)
Operating weight	Lbs.(kg)	1370(620)	1873(850)	2465(1120)	3080(1455)	3397(1605)	4730(2235)
Operational Data							
Water Pressure drop at 20°F ΔT	FT. H20 (bar)	35(1.0)	42.5(1.27)	80(2.39)	125(3.74)	150(4.48)	93(2.78)
Water Pressure drop at 30°F ΔT	FT. H20 (bar)	12.5(0.375)	19(0.56)	40(1.15)	62(1.87)	70(2.2)	40(1.2)
Water Pressure drop at 40°F ΔT	FT. H20 (bar)	7.0(0.21)	11.5(0.345)	22(0.695)	38(1.14)	40(1.2)	22(0.695)
minal flow rate 20°F ΔT	GPM (l/s)	100(6.31)	150(9.45)	200(12.62)	260(16.45)	330(20.84)	420(26.53)
Nominal flow rate 30°F ΔT	GPM (l/s)	66.7(4.21)	100(6.31)	133(8.4)	173(10.9)	220(13.9)	280(17.7)
Nominal flow rate 40°F ΔT	GPM (l/s)	52.5(3.33)	75(4.72)	100(6.31)	130(8.22)	165(10.42)	210(12.26)
Maximum flow rate	GPM (l/s)	121(7.65)	185(11.6)	230(14.6)	314(19.9)	400(25.5)	508(32.1)
Minimum flow rate at ignition	GPM (l/s)	24(1.5)	40(2.52)	54(3.4)	75(4.74)	132(8.34)	150(9.45)
Maximum supply temperature at 22 PSI minimum	°F (°C)	210(110)					
Normal operating temperature range	°F (°C)	40(4.5)-194(90)					
Maximum pressure loss in vent (sealed combustion)	Inch W.C.(mbar)	+0.20(0.5)					
Maximum pressure loss (combustion air duct)	Inch W.C.(mbar)	-0.22(0.55)					
Vent/ Combustion air/Gas info							
Flue gas vent diameter	Inches(mm)	6"	8"	10"	12"	12"	14"
Combustion air inlet diameter (Premix option)	Inches(mm)	6"	8"	10"	12"	12"	14"
Required combustion air CSA B-149- Forced draft	CFM(l/s)	233(110)	350(166)	467(220)	606(286)	700(330)	980(463)
Gas inlet diameter	Inches(mm)	Consult burner submittal					
Gas inlet pressure range	Inch W.C.(mbar)	3.5-14"(8.8-34.9) or 28" to 140"(70 to 348.7)					
Gas inlet pressure range	psi	0.13-0.51 or 1 to 5 PSI					
Fuel Type		Natural Gas or Propane					
Venting category		II, IV					
Venting material		Approved UL 1978/ULC 636 - AL-294C-316L					
Electrical Data							
Electrical supply-controls	V/P/H	120/1/60- 15A Maximum					
Electrical supply-Burner Blower	V/P/H	120/1/60	120/1/60	120/1/60	230- 460/3/60	230- 460/3/60	230- 460/3/60
Power consumption	Watts	600	600	700	1350	2600	2600
Protection	Rating	IP 20-Nema 1	IP 20-Nema 1	IP 20-Nema 1	IP 20-Nema 1	IP 20-Nema 1	IP 20-Nema 1

Accessories and Optional equipment

☐ **Combustion air filter**	Installed on Absolute model air inlet to protect from dust and other particles.	
☐ **BACnet Gateway**	Modbus RTU to BACnet Gateway. Supports BACnet/IP, BACnet MS/TP, LonWorks, and Johnson Controls Metasys N2 systems.	
☐ **Outdoor Sensor**	Senses outdoor temperature for reset curve adjustment.	
☐ **DWH Sensor with well**	Sensor for Domestic Hot Water supply from the boiler to a buffer tank or indirect water heater.	

☐ **Local/Remote switch**	Easy selection from locally controlled boiler to the BMS remotely controlled system.	
☐ **Condensate Neutralizing Kit**	Controls condensate PH from the boiler and the vent before it is directed to the floor drain.	
☐ **Automatic reset LWCO**	Automatically completes the circuit when water level is normal	
☐ **Stack Sensor with well included with boiler**	Sensor monitors stack temperature and allows quick diagnosis for maintenance or service	

About Enerpro

Located in the proximity of Toronto, Ontario, Enerpro boilers and water heaters is a market leader and major producer of heat transfer equipment. Our boilers and water heaters are installed in commercial, institutional and industrial building applications such as offices, schools, apartment complexes, hotels, hospitals as well as dairy and food and beverage applications. Our experienced and creative team of specialists cumulate many years of experience in boiler and water heater design.

Our vast network of authorized representatives across North America will provide you with professional advice, engineered solutions, sales, product support and customer service.

ENERPRO

185 Durham St. Mount Forest
Ontario, Canada,
N0G 2L1

Please consult your local sales representative for details.

www.enerproboilers.com