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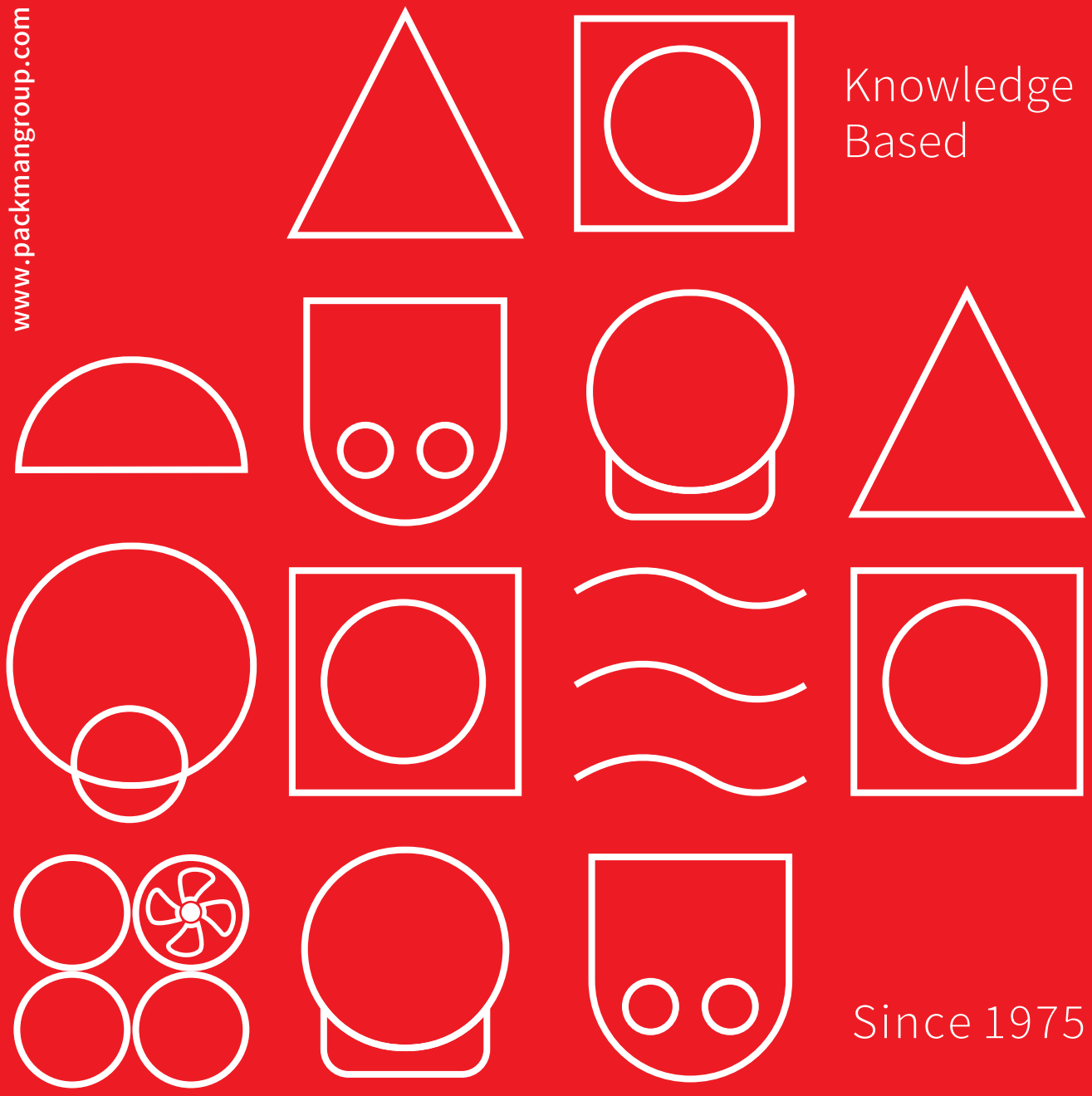
Knowledge
Based



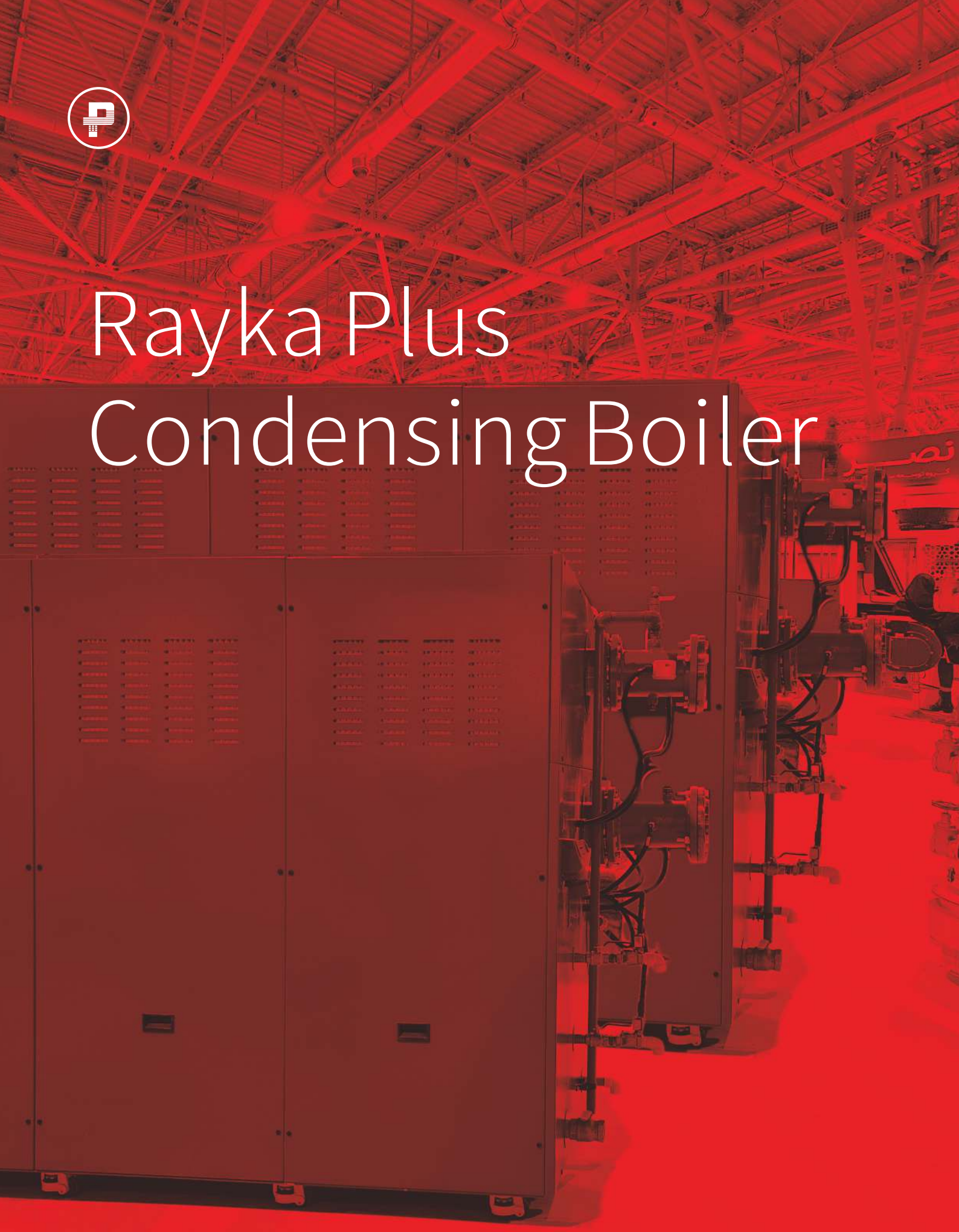
Since 1975

PACKMAN
Industrial Group

Rayka & Rayka Plus Condensing Boiler

powered by PACKMAN industrial group

Rayka Plus
Condensing Boiler



Product Description

Packman's RAYKA PLUS & RAYKA condensing boilers can work with natural gas or oil. These boilers have high efficiency since they use the latent heat of water vapor which exists in flue gasses to preheat the cold water entering the boiler As a result. Water vapor and other products of combustion are condensed which in turn leads to energy and cost saving.

The Boiler's operation is governed by the desired temperature of hot water outlet. Using a analog, high precision temperature controller, the owner will identify the required hot water temperature. A temperature sensor located in the boiler's outlet manifold continuously measures the outlet water's temperature.

A combustion controller is incorporated to operate the gas valve and air damper separately. This actuator controls the air/gas mixture entering the burner. For As long as the set temperature is above that of the outlet water, the boiler operates at maximum output capacity. Analogue signals are sent to the temperature controller from the temperature sensor. The controller then sends the corresponding signals to the actuator. Therefore, the appropriate volume of air/gas mixture flows into the burner. As the outlet temperature approaches the set temperature, the air/gas mixture flow is gradually reduced by the servomotor (connected to the gas butterfly valve and the air damper). This results in gradual decrease in the unit's capacity. This modulating system allows for optimum continuous operation of the boiler and offers almost infinite capacity within the boiler operating range.

All of our products employ the patented radial pulsed technology. Due to the turbulent mode of heat transfer, turbulent water flow and direct heating of the heat exchanger, the overall heat transfer (thermal) efficiency of the products is in the range of 94.0% - 98.9%, depending on the return water's temperature. Packman's Rayka Condensing Boilers are suitable for both open & closed cycle heating.

In construction of these boilers, all tests are conducted in accordance with the American National Standard Institute (ANSI). In addition, all Pressure Parts are in accordance with the American Society of Mechanical Engineers (ASME) standard. All materials used in the heat exchanger are also selected according to the requirements of the American Society of Testing Material (ASTM)

Condensing Boiler Material

Packman Boilers are constructed of 300 series stainless steel (316L). 300 series stainless steels have more solidity than 400 series, because they contain nickel and chromium.

Capacity Range

The capacity range of Packman 's Rayka Plus condensing boilers differs from 500,000 to 3,000,000 kcal/hr and Rayka 800,000 to 10,000,000 kcal/hr with working pressure up to 25 bar g. The stainless-steel heat exchanger used in the boilers is constructed as a vertical coil, the size of which depends on capacity. These condensing boilers can directly produce sanitary hot water due to their material & structure.

Applications

These boilers are used in schools, commercial and residential buildings, potable water direct heating, water desalination systems, swimming pools and various other heating systems.

Smart Connection (IOT)

Remotely control able to facilitate heat & set point programing. Communicating any type of protocol supported. Fault and status report available.Air and gas damper's automatic control.Load controllingCapacity ranges from 16% to 100% of full load.Adjustable hot water flow rate.Boiler Operation based on return water temperature direct heating.

Packman's RAYKA PLUS & RAYKA Condensing Boiler's Advantages

- Up to 10,000,000 kcal/hr Capacity
- Up to 25 bar working Pressure
- Can works in direct water heating, (no need for auxiliary heat exchanger)
- Easy maintenance and commissioning
- Up to 98% HHV efficiency
- Special radial pulse burner with lowest amount of contamination
- Modular Premix burner with a capacity range of 16% to 100%
- No need for long chimneys (UPVC and other corrosion and temperature resistant materials for chimney are acceptable).
- RAYKA Series Compatibility with dual fuel burners.

- PLC Control panel compatible with IOT system
- Suitable for potable water direct heating, Water Desalination Systems, swimming pool direct heating and etc.

BMS Connection

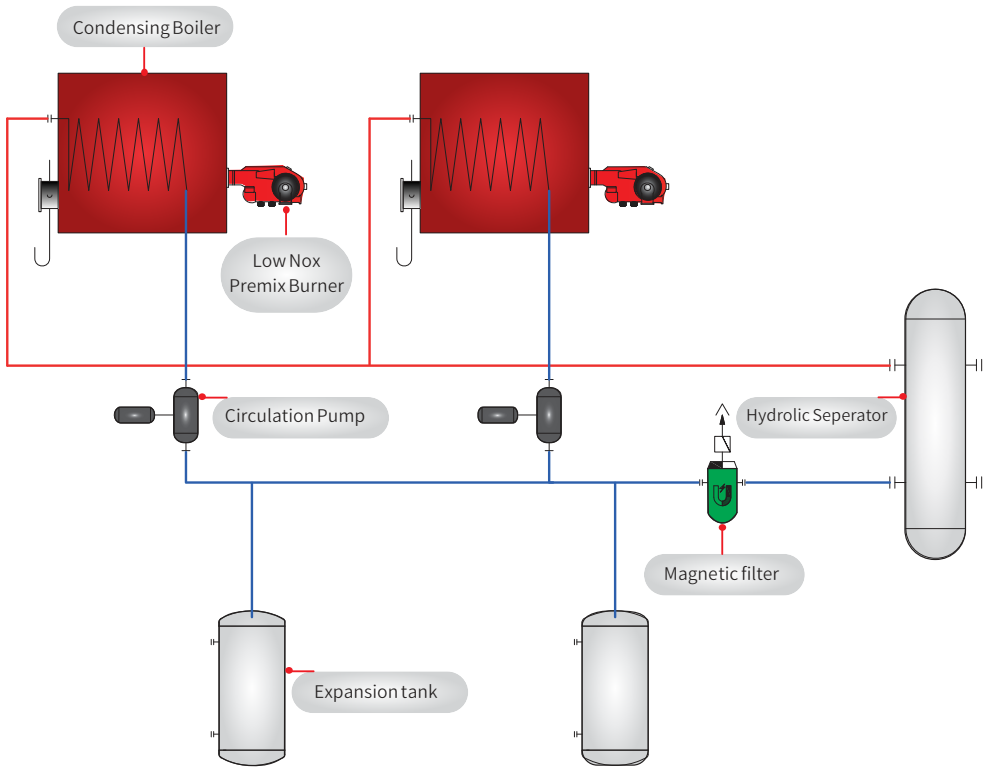
- Remotely control able to facilitate heat & Set point programing
- Supported Communicating any type of protocol
- Fault and status report available
- Air and gas damper's automatic control.

Load Controling

- Capacity range from 16% to 100% of full load.
- Adjustable hot water flow rate.
- Boiler Operation based on return water temperature direct heating.

Direct Heating

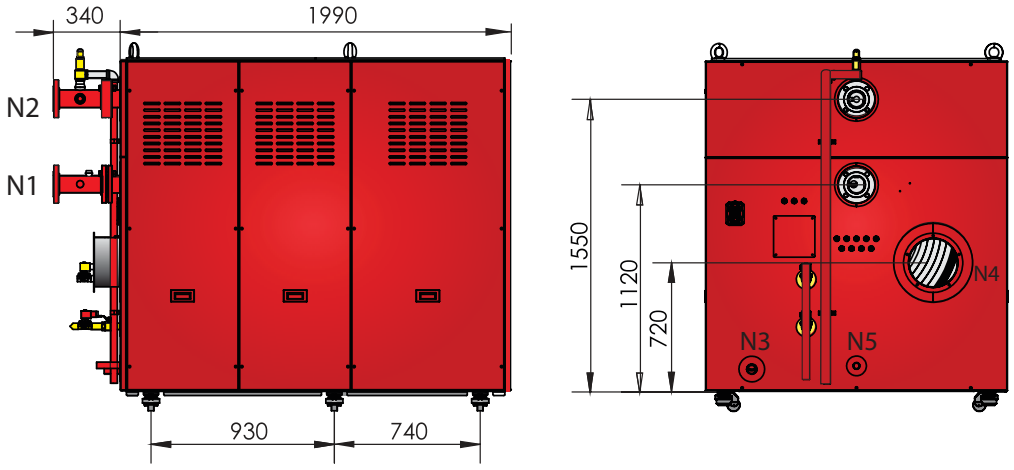
- Direct water heating is possible for pools, domestic hot water supply & etc.
- 5 degrees centigrade water inlet is acceptable.

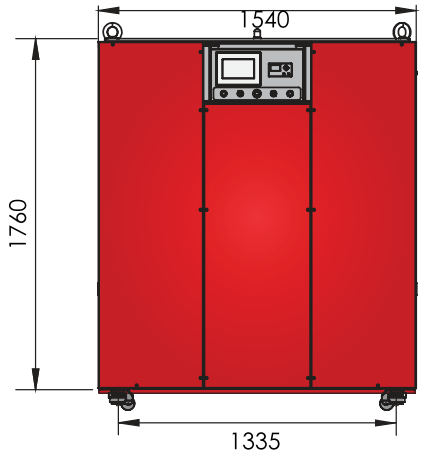


RAYKA PLUS Condensing Boiler 500.000 kcal/h

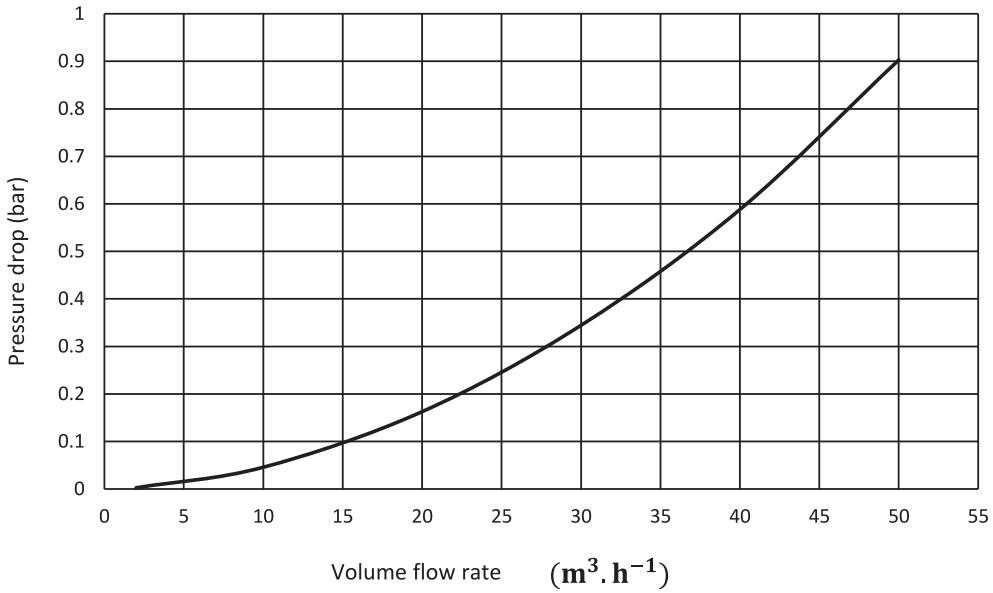
Model	Unit	500.000
Specification		
Heat Output (min-max)	kcal/h	125,000-500,000
Efficiency @ (30-50°C)	%	98
Efficiency @ (60-80°C)	%	91
NOX Class	-	Super Low NOx
Max Noise	dBA	80
Net Weight	kg	1000
Water Side		
Min Flow Rate	m^3/h	45
Max Working Pressure	bar	16
Water Side Pressure Drop at $\Delta T = 10$ °C	bar	0.9
Max Supply Temperature	°C	85
Max Condensate Flow Rate	L/h	73
Water Content	L	160
Combustion		
Gas Consumption Rate with Calorific Value 9200 (kcal/m3)	m^3/h	56
Max Flue Temperature at Condensing Mode (30-50°C)	°C	53
Flue Gas Flow Rate	kg/h	935
Carbon Monoxide	ppm	< 10
Connections		
Supply Water Connection (N1)	in	3
Return Water Connection (N2)	in	3
Gas Connection (N3)	in	1 1/2
Flue Gas Outlet (N4)	mm	250
Condensate Drain (N5)	mm	32
Electrical		
Electric Power Suppl Voltage	V	240
Electric Power Supply Frequency	Hz	50
Pump Suggestion		
Head	m	9
Flow Rate	m^3/h	50

Dimensional Specifications:





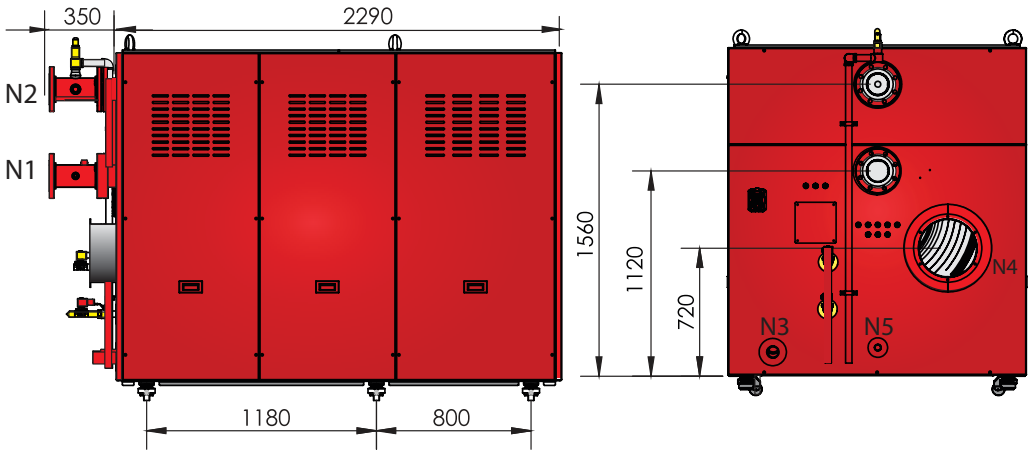
WATER-SIDE PRESSURE DROP CURVE

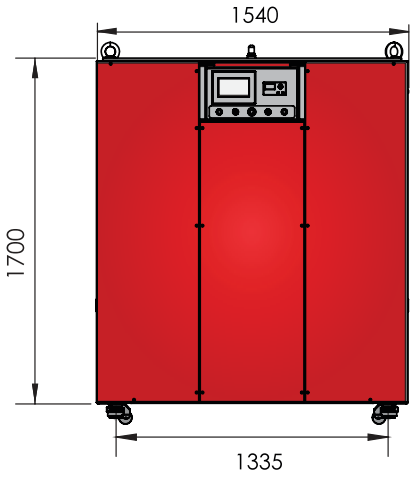


RAYKA PLUS Condensing Boiler 800.000 kcal/h

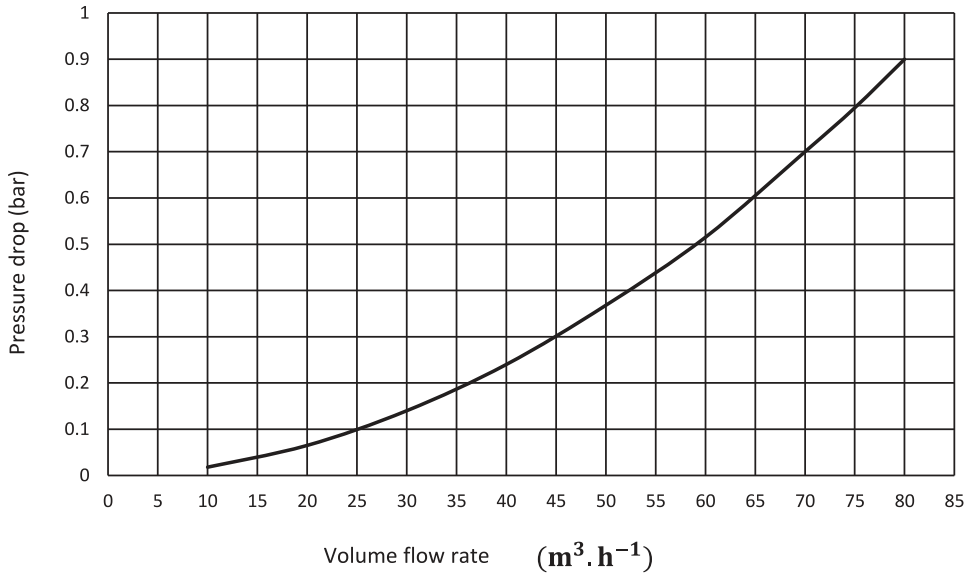
Model	Unit	800.000
Specification		
Heat Output (min-max)	kcal/h	200,000-800,000
Efficiency @ (30-50°C)	%	98
Efficiency @ (60-80°C)	%	91
NOX Class	-	Super Low NOx
Max Noise	dBA	80
Net Weight	kg	1620
Water Side		
Min Flow Rate	m^3/h	75
Max Working Pressure	bar	16
Water Side Pressure Drop at $\triangle T = 10$ °C	bar	0.9
Max Supply Temperature	°C	85
Max Condensate Flow Rate	L/h	118
Water Content	L	240
Combustion		
Gas Consumption Rate with Calorific Value 9200 (kcal/m3)	m^3/h	90
Max Flue Temperature at Condensing Mode (30-50°C)	°C	54
Flue Gas Flow Rate	kg/h	1500
Carbon Monoxide	ppm	< 10
Connections		
Supply Water Connection (N1)	in	4
Return Water Connection (N2)	in	4
Gas Connection (N3)	in	2
Flue Gas Outlet (N4)	mm	300
Condensate Drain (N5)	mm	32
Electrical		
Electric Power Suppl Voltage	V	380
Electric Power Supply Frequency	Hz	50
Pump Suggestion		
Head	m	9
Flow Rate	m^3/h	80

Dimensional Specifications:





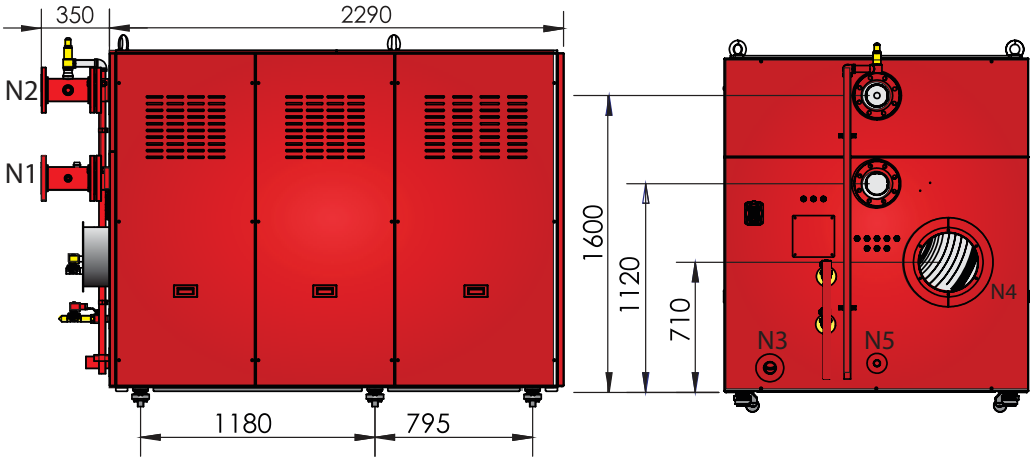
WATER-SIDE PRESSURE DROP CURVE

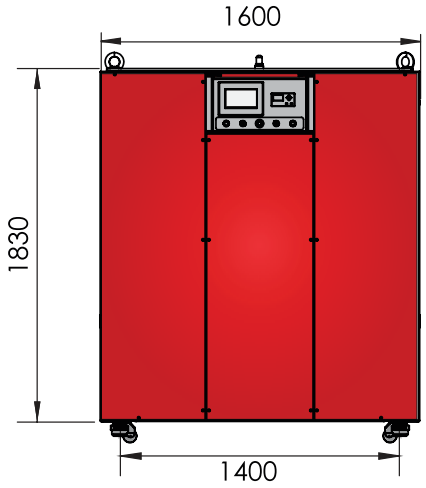


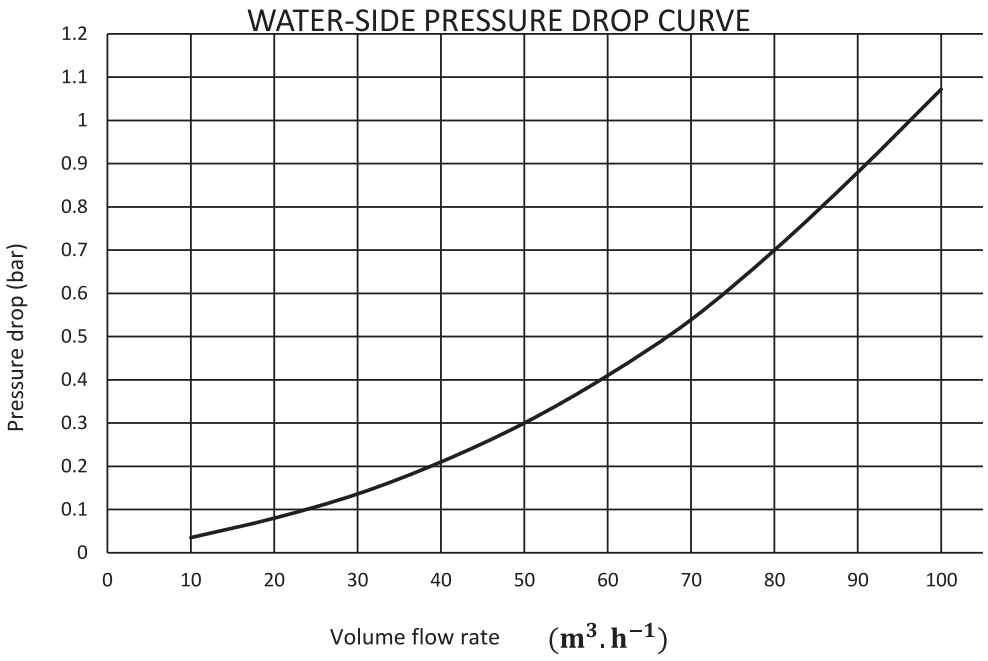
RAYKA PLUS Condensing Boiler 1.000.000 kcal/h

Model	Unit	1.000.000
Specification		
Heat Output (min-max)	kcal/h	250,000-1,000,000
Efficiency @ (30-50°C)	%	98
Efficiency @ (60-80°C)	%	91
NOX Class	-	Super Low NOx
Max Noise	dBA	85
Net Weight	kg	1800
Water Side		
Min Flow Rate	m^3/h	85
Max Working Pressure	bar	16
Water Side Pressure Drop at $\triangle T = 10$ °C	bar	1.1
Max Supply Temperature	°C	85
Max Condensate Flow Rate	L/h	148
Water Content	L	310
Combustion		
Gas Consumption Rate with Calorific Value 9200 (kcal/m3)	m^3/h	115
Max Flue Temperature at Condensing Mode (30-50°C)	°C	54
Flue Gas Flow Rate	kg/h	1880
Carbon Monoxide	ppm	< 10
Connections		
Supply Water Connection (N1)	in	5
Return Water Connection (N2)	in	5
Gas Connection (N3)	in	2
Flue Gas Outlet (N4)	mm	300
Condensate Drain (N5)	mm	32
Electrical		
Electric Power Suppl Voltage	V	380
Electric Power Supply Frequency	Hz	50
Pump Suggestion		
Head	m	11
Flow Rate	m^3/h	100

Dimensional Specifications:



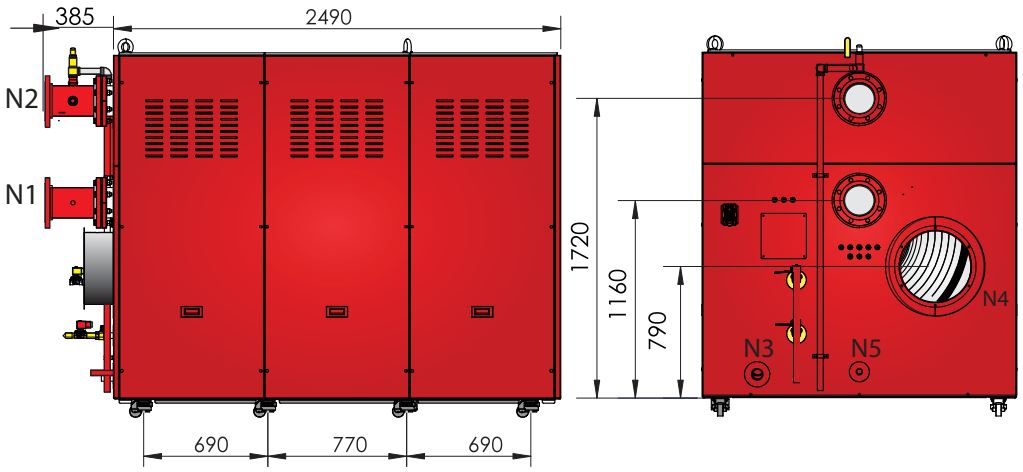


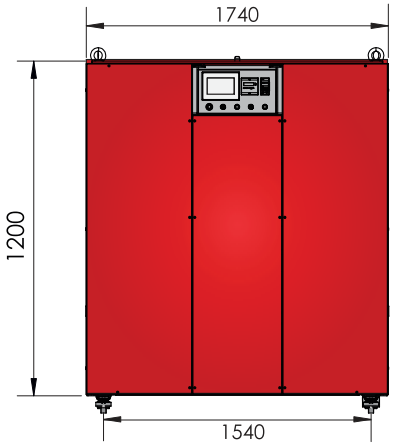


RAYKA PLUS Condensing Boiler 1.250.000 kcal/h

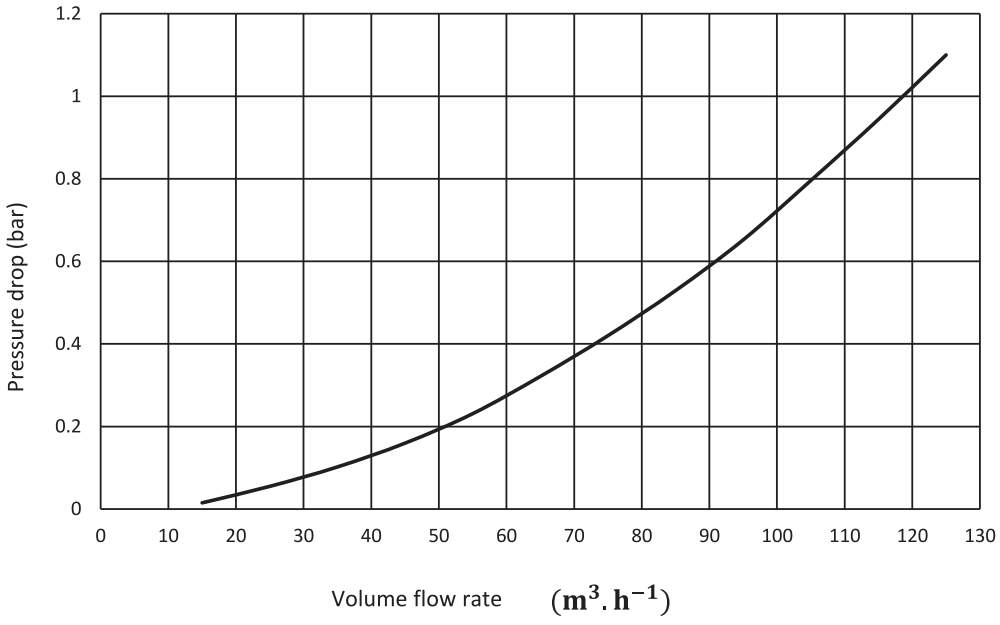
Model	Unit	1.250.000
Specification		
Heat Output (min-max)	kcal/h	200,000-1,250,000
Efficiency @ (30-50°C)	%	98
Efficiency @ (60-80°C)	%	91
NOX Class	-	Super Low NOx
Max Noise	dBA	85
Net Weight	kg	2250
Water Side		
Min Flow Rate	m^3/h	105
Max Working Pressure	bar	16
Water Side Pressure Drop at $\triangle T = 10$ °C	bar	1.1
Max Supply Temperature	°C	85
Max Condensate Flow Rate	L/h	185
Water Content	L	510
Combustion		
Gas Consumption Rate with Calorific Value 9200 (kcal/m3)	m^3/h	140
Max Flue Temperature at Condensing Mode (30-50°C)	°C	53
Flue Gas Flow Rate	kg/h	2345
Carbon Monoxide	ppm	< 10
Connections		
Supply Water Connection (N1)	in	6
Return Water Connection (N2)	in	6
Gas Connection (N3)	in	2
Flue Gas Outlet (N4)	mm	400
Condensate Drain (N5)	mm	32
Electrical		
Electric Power Suppl Voltage	V	380
Electric Power Supply Frequency	Hz	50
Pump Suggestion		
Head	m	11
Flow Rate	m^3/h	125

Dimensional Specifications:





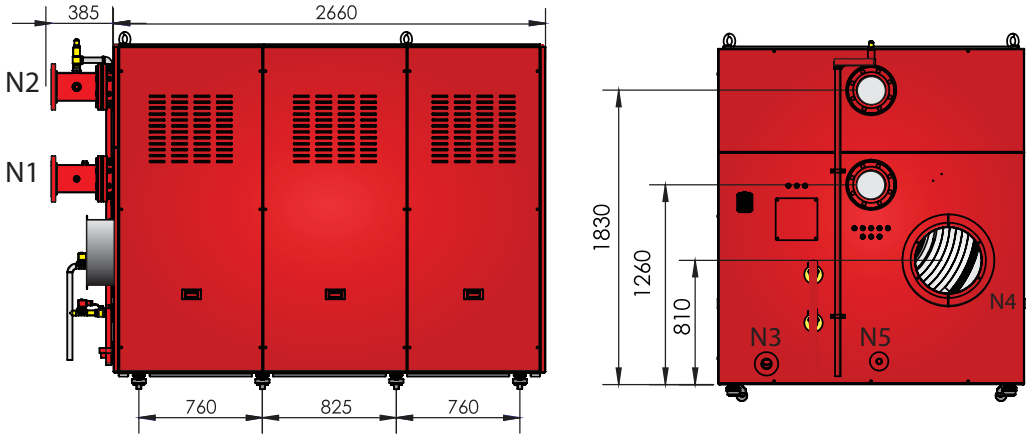
WATER-SIDE PRESSURE DROP CURVE

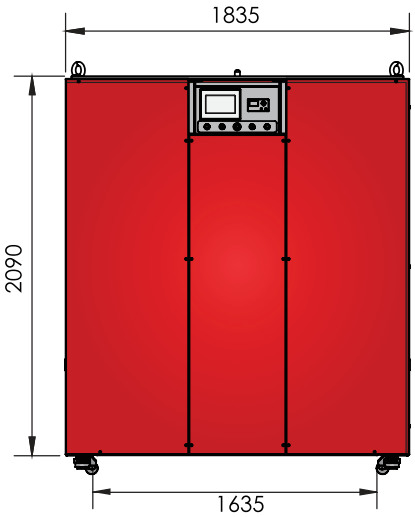


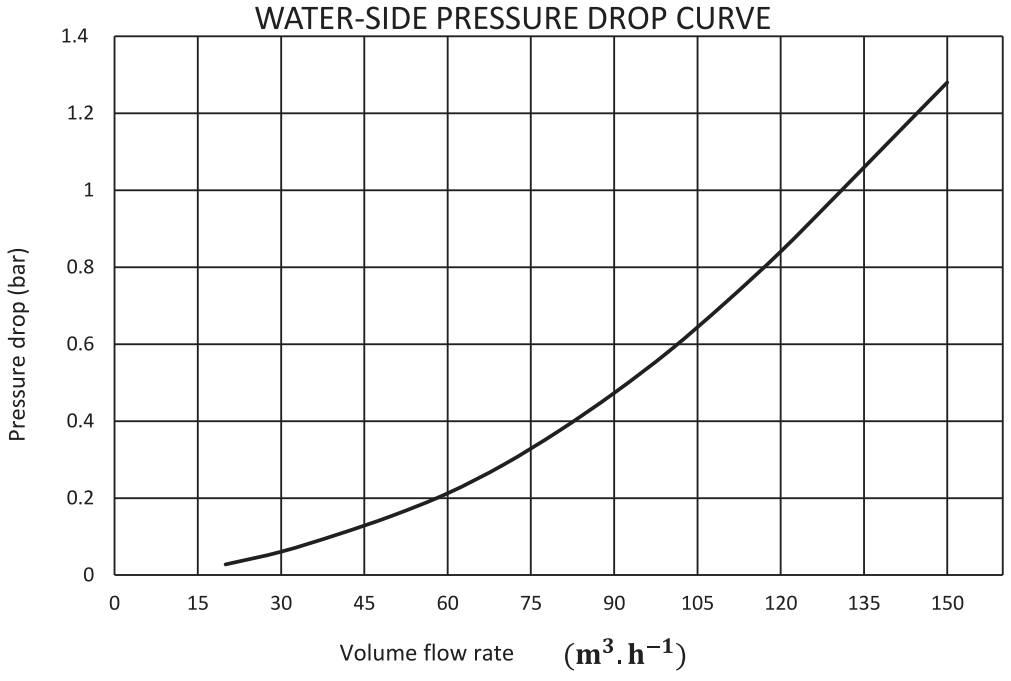
RAYKA PLUS Condensing Boiler 1.500.000 kcal/h

Model	Unit	1.500.000
Specification		
Heat Output (min-max)	kcal/h	250,000-1,500,000
Efficiency @ (30-50°C)	%	98
Efficiency @ (60-80°C)	%	91
NOX Class	-	Super Low NOx
Max Noise	dBA	85
Net Weight	kg	2700
Water Side		
Min Flow Rate	m^3/h	130
Max Working Pressure	bar	16
Water Side Pressure Drop at $\triangle T = 10$ °C	bar	1.3
Max Supply Temperature	°C	85
Max Condensate Flow Rate	L/h	222
Water Content	L	680
Combustion		
Gas Consumption Rate with Calorific Value 9200 (kcal/m3)	m^3/h	170
Max Flue Temperature at Condensing Mode (30-50°C)	°C	55
Flue Gas Flow Rate	kg/h	2814
Carbon Monoxide	ppm	< 10
Connections		
Supply Water Connection (N1)	in	6
Return Water Connection (N2)	in	6
Gas Connection (N3)	in	2
Flue Gas Outlet (N4)	mm	400
Condensate Drain (N5)	mm	32
Electrical		
Electric Power Suppl Voltage	V	380
Electric Power Supply Frequency	Hz	50
Pump Suggestion		
Head	m	13
Flow Rate	m^3/h	150

Dimensional Specifications:



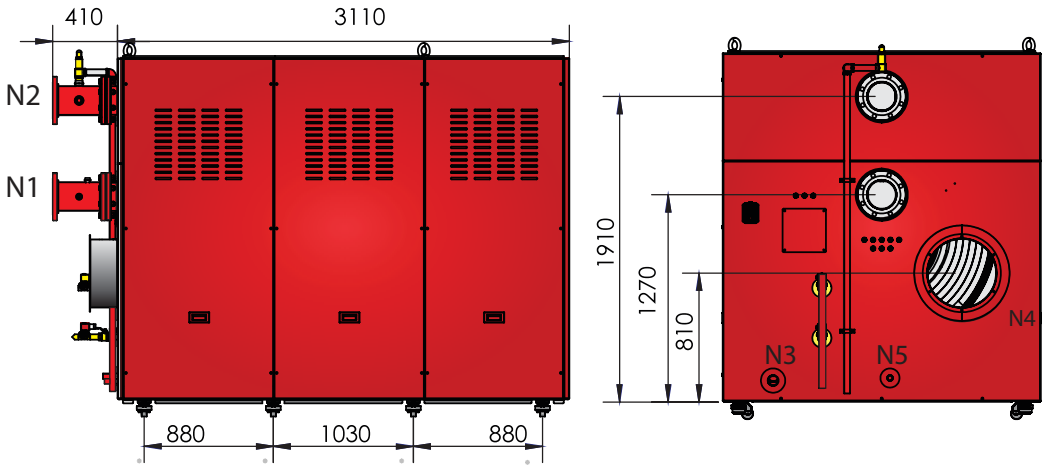


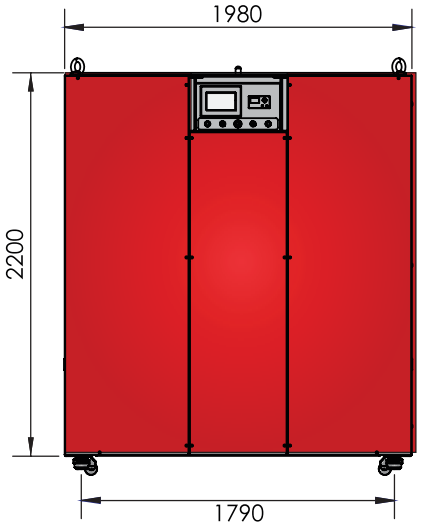


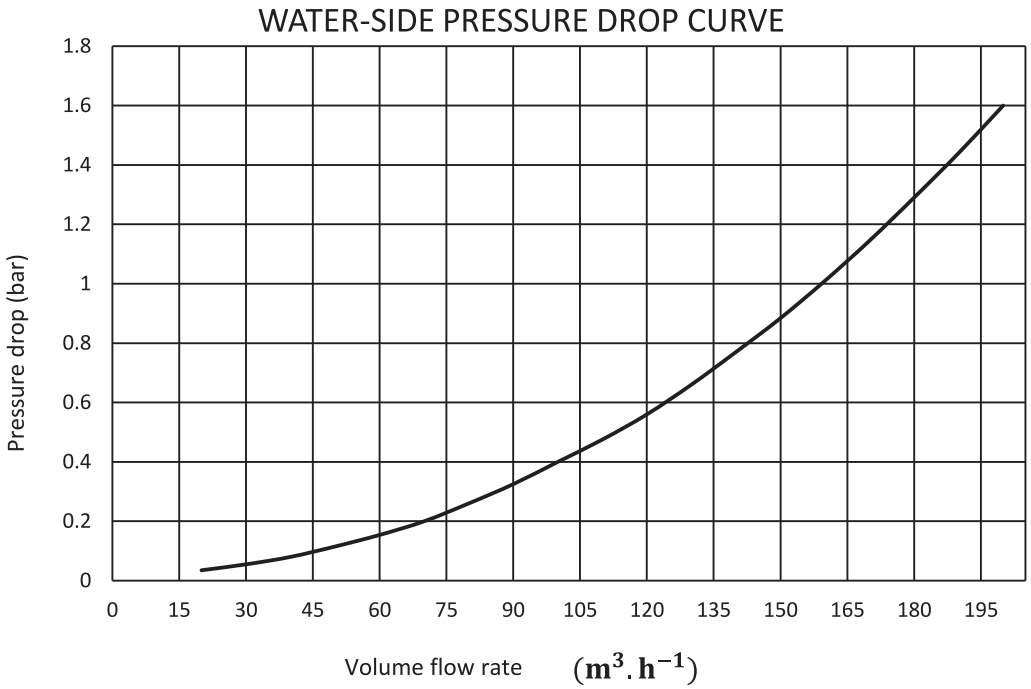
RAYKA PLUS Condensing Boiler 2.000.000 kcal/h

Model	Unit	2.000.000
Specification		
Heat Output (min-max)	kcal/h	350,000-2,000,000
Efficiency @ (30-50°C)	%	98
Efficiency @ (60-80°C)	%	91
NOX Class	-	Super Low NOx
Max Noise	dBA	85
Net Weight	kg	3600
Water Side		
Min Flow Rate	m^3/h	150
Max Working Pressure	bar	16
Water Side Pressure Drop at $\Delta T = 10$ °C	bar	1.6
Max Supply Temperature	°C	85
Max Condensate Flow Rate	L/h	296
Water Content	L	950
Combustion		
Gas Consumption Rate with Calorific Value 9200 (kcal/m3)	m^3/h	240
Max Flue Temperature at Condensing Mode (30-50°C)	°C	53
Flue Gas Flow Rate	kg/h	3750
Carbon Monoxide	ppm	< 10
Connections		
Supply Water Connection (N1)	in	6
Return Water Connection (N2)	in	6
Gas Connection (N3)	in	2
Flue Gas Outlet (N4)	mm	500
Condensate Drain (N5)	mm	32
Electrical		
Electric Power Suppl Voltage	V	380
Electric Power Supply Frequency	Hz	50
Pump Suggestion		
Head	m	17
Flow Rate	m^3/h	200

Dimensional Specifications:



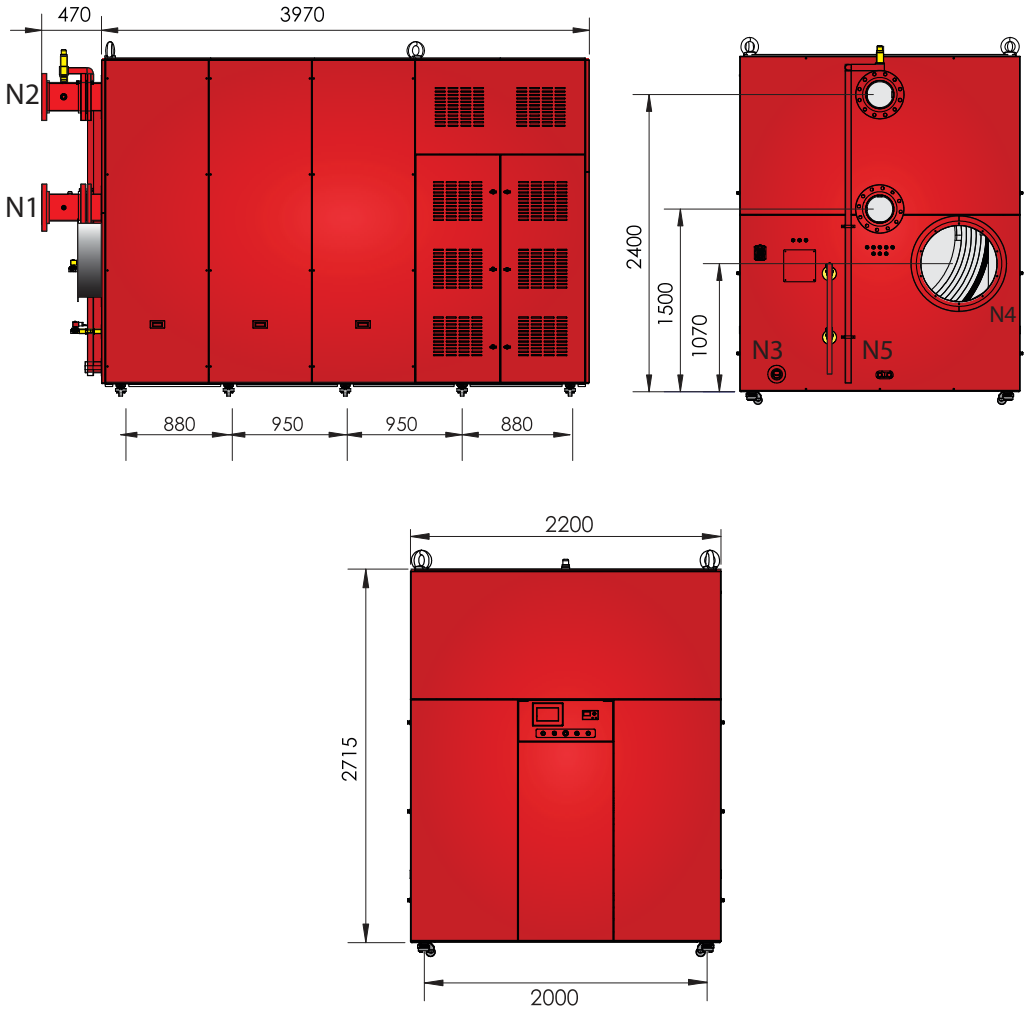




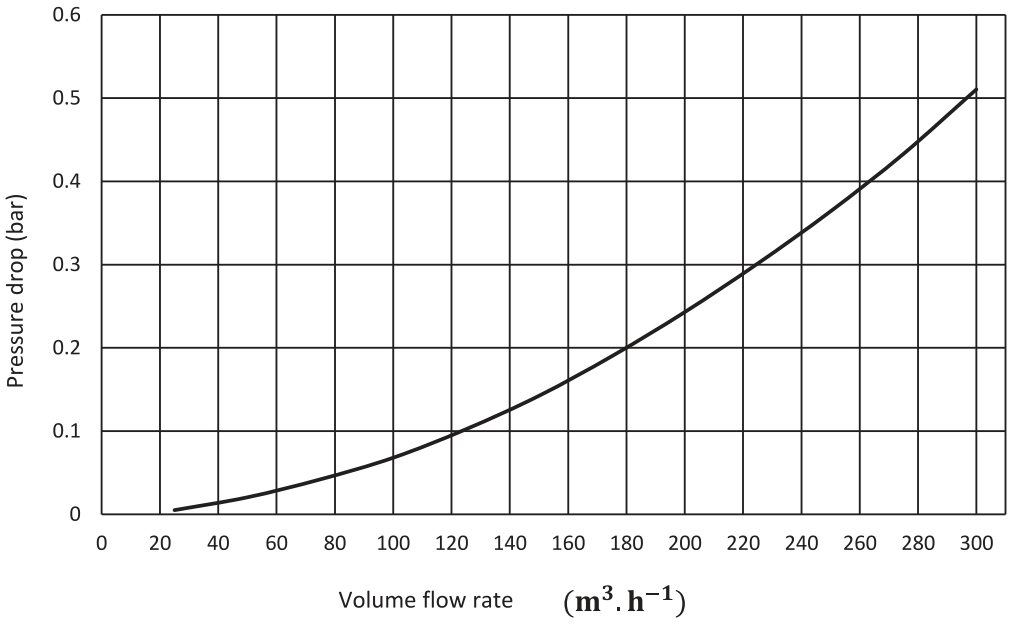
RAYKA PLUS Condensing Boiler 3.000.000 kcal/h

Model	Unit	3.000.000
Specification		
Heat Output (min-max)	kcal/h	500,000-3,000,000
Efficiency @ (30-50°C)	%	98
Efficiency @ (60-80°C)	%	91
NOX Class	-	Super Low NOx
Max Noise	dBA	85
Net Weight	kg	5600
Water Side		
Min Flow Rate	m^3/h	300
Max Working Pressure	bar	16
Water Side Pressure Drop at $\triangle T = 10$ °C	bar	0.5
Max Supply Temperature	°C	85
Max Condensate Flow Rate	L/h	444
Water Content	L	1300
Combustion		
Gas Consumption Rate with Calorific Value 9200 (kcal/m3)	m^3/h	360
Max Flue Temperature at Condensing Mode (30-50°C)	°C	53
Flue Gas Flow Rate	kg/h	5640
Carbon Monoxide	ppm	< 10
Connections		
Supply Water Connection (N1)	in	8
Return Water Connection (N2)	in	8
Gas Connection (N3)	in	3
Flue Gas Outlet (N4)	mm	600
Condensate Drain (N5)	mm	32
Electrical		
Electric Power Suppl Voltage	V	380
Electric Power Supply Frequency	Hz	50
Pump Suggestion		
Head	m	6
Flow Rate	m^3/h	300

Dimensional Specifications:



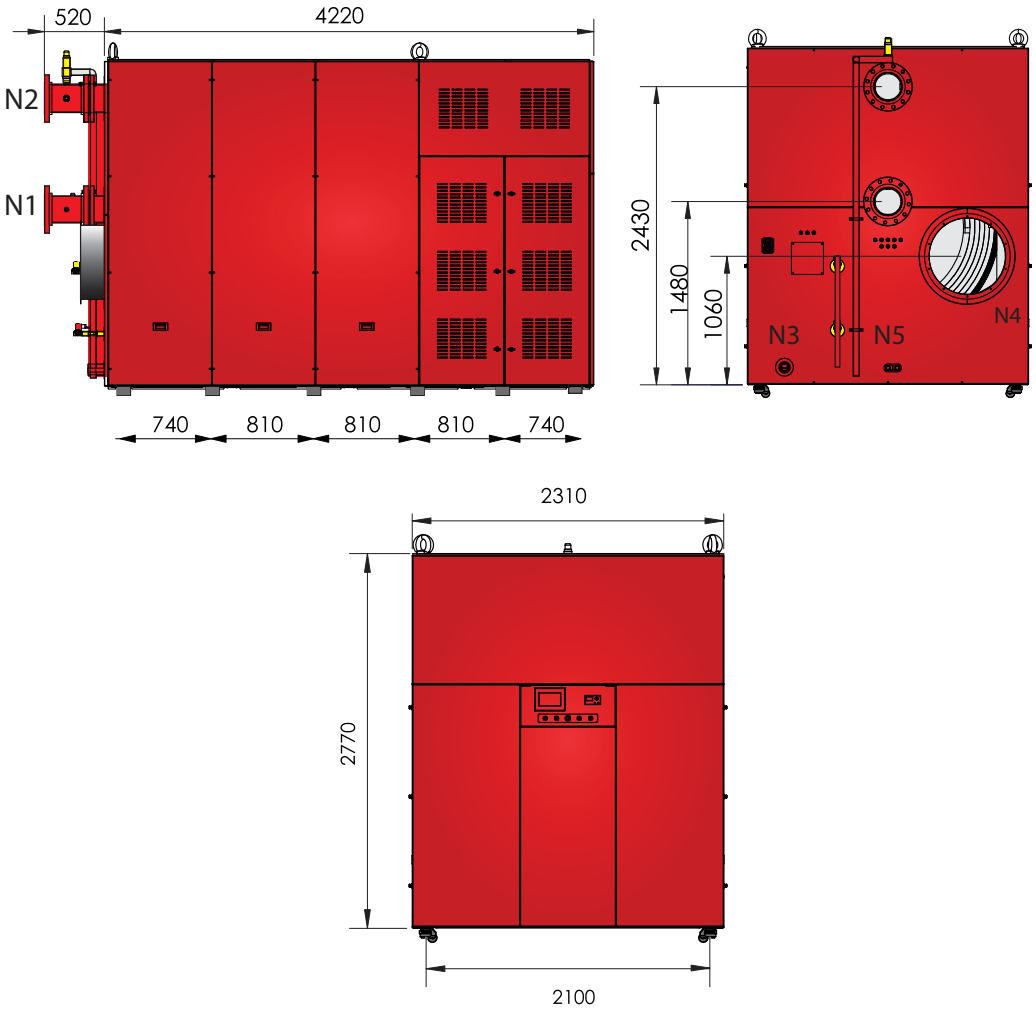
WATER-SIDE PRESSURE DROP CURVE



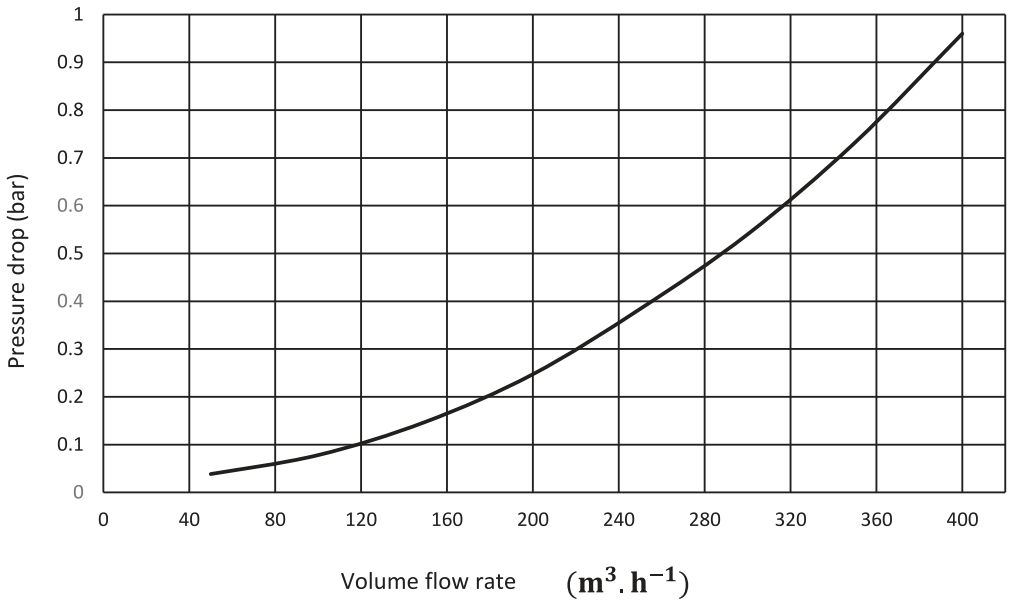
RAYKA PLUS Condensing Boiler 4.000.000 kcal/h

Model	Unit	4.000.000
Specification		
Heat Output (min-max)	kcal/h	650,000-4,000,000
Efficiency @ (30-50°C)	%	98
Efficiency @ (60-80°C)	%	91
NOX Class	-	Super Low NOx
Max Noise	dBA	89
Net Weight	kg	6000
Water Side		
Min Flow Rate	m^3/h	400
Max Working Pressure	bar	16
Water Side Pressure Drop at $\triangle T = 10$ °C	bar	0.9
Max Supply Temperature	°C	85
Max Condensate Flow Rate	L/h	592
Water Content	L	1800
Combustion		
Gas Consumption Rate with Calorific Value 9200 (kcal/m3)	m^3/h	450
Max Flue Temperature at Condensing Mode (30-50°C)	°C	53
Flue Gas Flow Rate	kg/h	7500
Carbon Monoxide	ppm	< 10
Connections		
Supply Water Connection (N1)	in	10
Return Water Connection (N2)	in	10
Gas Connection (N3)	in	3
Flue Gas Outlet (N4)	mm	650
Condensate Drain (N5)	mm	32
Electrical		
Electric Power Suppl Voltage	V	380
Electric Power Supply Frequency	Hz	50
Pump Suggestion		
Head	m	10
Flow Rate	m^3/h	400

Dimensional Specifications:



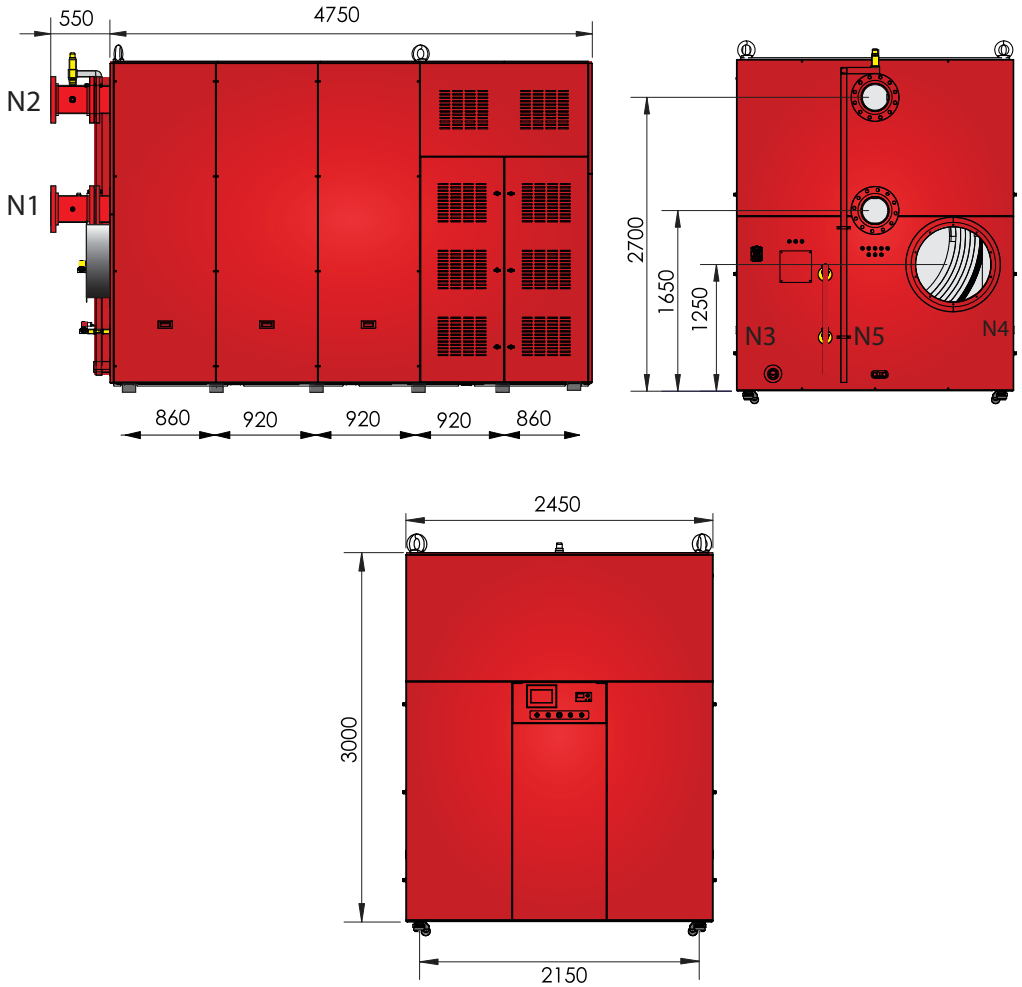
WATER-SIDE PRESSURE DROP CURVE



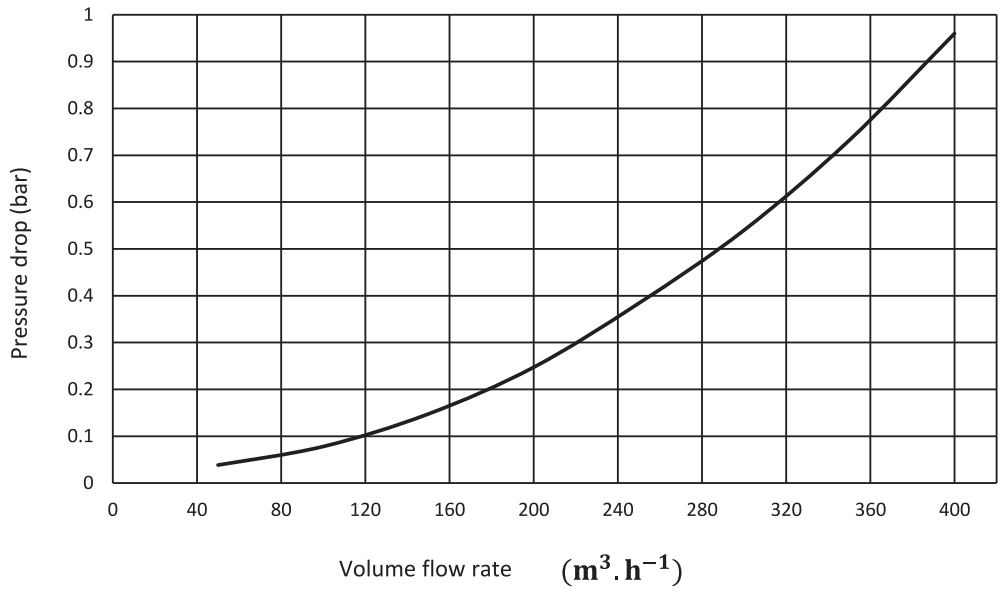
RAYKA PLUS Condensing Boiler 5.000.000 kcal/h

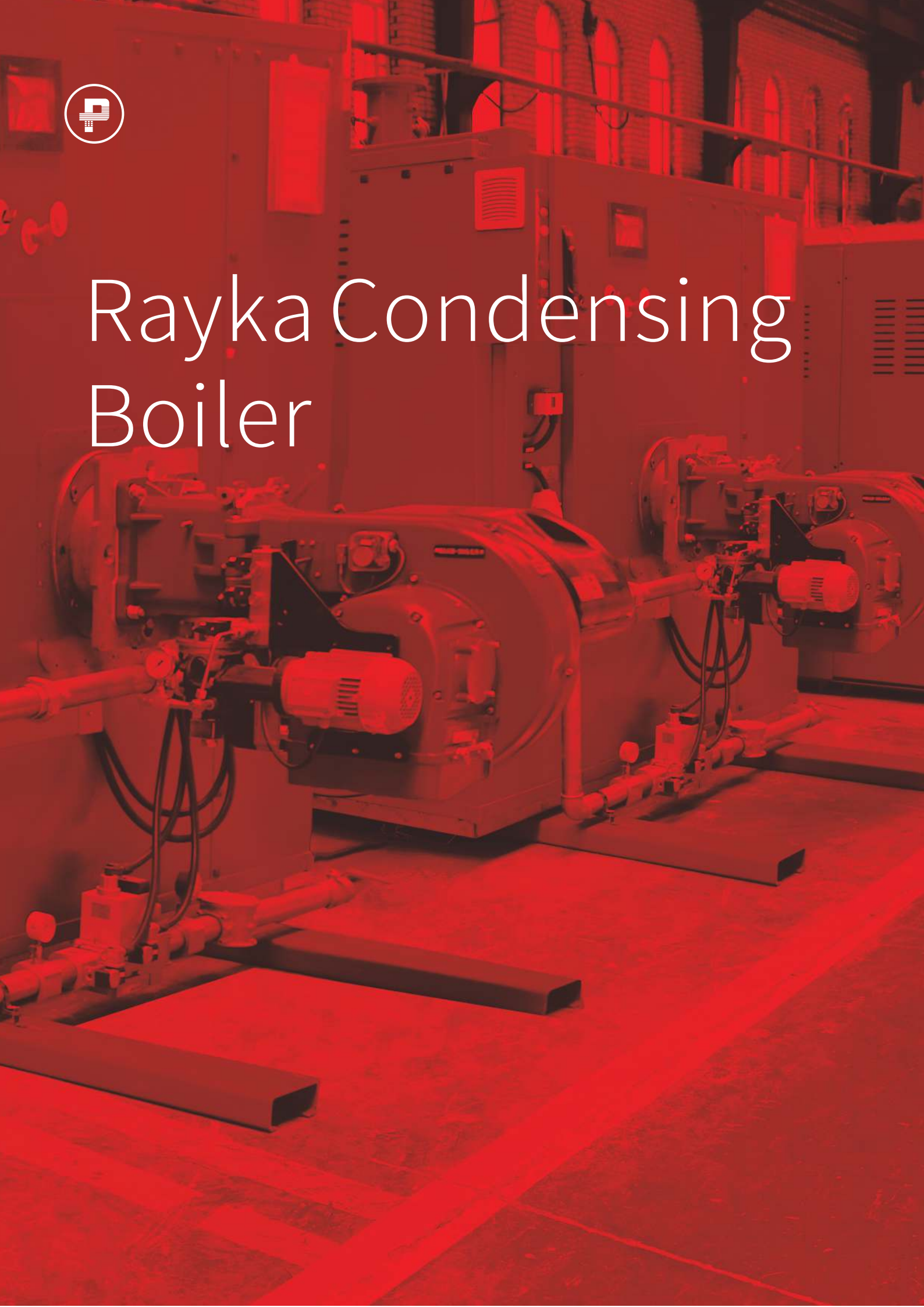
Model	Unit	5.000.000
Specification		
Heat Output (min-max)	kcal/h	800,000-5,000,000
Efficiency @ (30-50°C)	%	98
Efficiency @ (60-80°C)	%	91
NOX Class	-	Super low NOx
Max Noise	dBA	89
Net Weight	kg	7500
Water Side		
Min Flow Rate	m^3/h	500
Max Working Pressure	bar	16
Water Side Pressure Drop at $\Delta T = 10$ °C	bar	1.2
Max Supply Temperature	°C	85
Max Condensate Flow Rate	L/h	740
Water Content	L	2000
Combustion		
Gas Consumption Rate with Calorific Value 9200 (kcal/m3)	m^3/h	560
Max Flue Temperature at Condensing Mode (30-50°C)	°C	53
Flue Gas Flow Rate	kg/h	9380
Carbon Monoxide	ppm	< 10
Connections		
Supply Water Connection (N1)	in	12
Return Water Connection (N2)	in	12
Gas Connection (N3)	in	3
Flue Gas Outlet (N4)	mm	700
Condensate Drain (N5)	mm	32
Electrical		
Electric Power Suppl Voltage	V	380
Electric Power Supply Frequency	Hz	50
Pump Suggestion		
Head	m	13
Flow Rate	m^3/h	500

Dimensional Specifications:



WATER-SIDE PRESSURE DROP CURVE



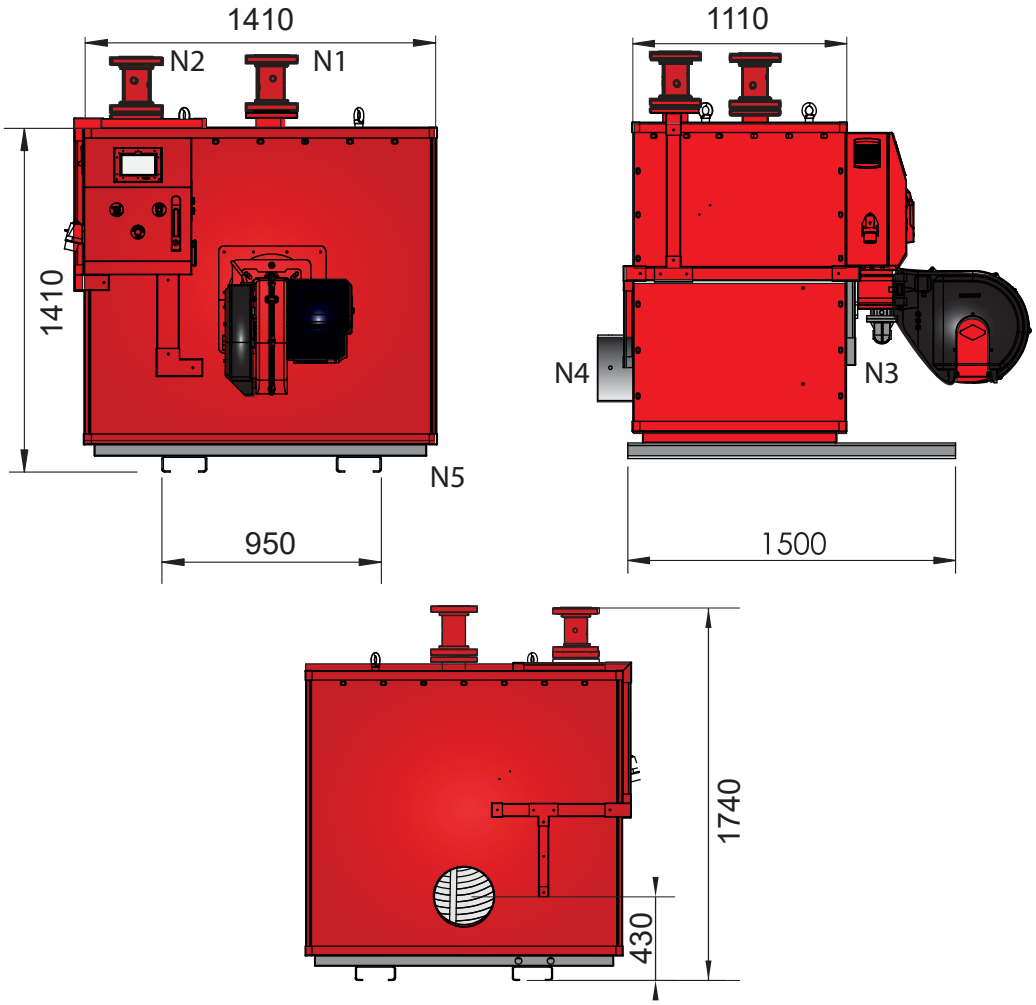


Rayka Condensing Boiler

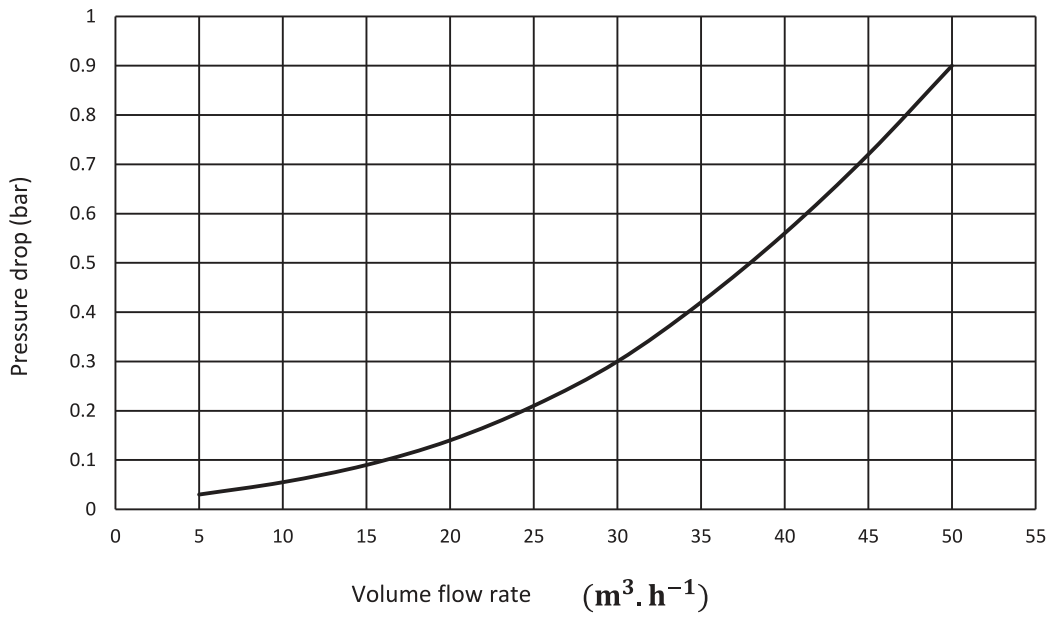
RAYKA Condensing Boiler 500.000 kcal/h

Model	Unit	500.000
Specification		
Heat Output (min-max)	kcal/h	125,000-500,000
Efficiency @ (30-50°C)	%	98
Efficiency @ (60-80°C)	%	91
NOX Class	-	2
Max Noise	dBA	80
Net Weight	kg	950
Water Side		
Min Flow Rate	m^3/h	45
Max Working Pressure	bar	16
Water Side Pressure Drop at $\Delta T = 10$ °C	bar	0.9
Max Supply Temperature	°C	85
Max Condensate Flow Rate	L/h	73
Water Content	L	190
Combustion		
Gas Consumption Rate with Calorific Value 9200 (kcal/m3)	m^3/h	56
Max Flue Temperature at Condensing Mode (30-50°C)	°C	55
Flue Gas Flow Rate	kg/h	935
Carbon Monoxide	ppm	< 100
Connections		
Supply Water Connection (N1)	in	3
Return Water Connection (N2)	in	3
Gas Connection (N3)	in	1 1/2
Flue Gas Outlet (N4)	mm	250
Condensate Drain (N5)	mm	32
Electrical		
Electric Power Suppl Voltage	V	380
Electric Power Supply Frequency	Hz	50
Pump Suggestion		
Head	m	9
Flow Rate	m^3/h	50

Dimensional Specifications:



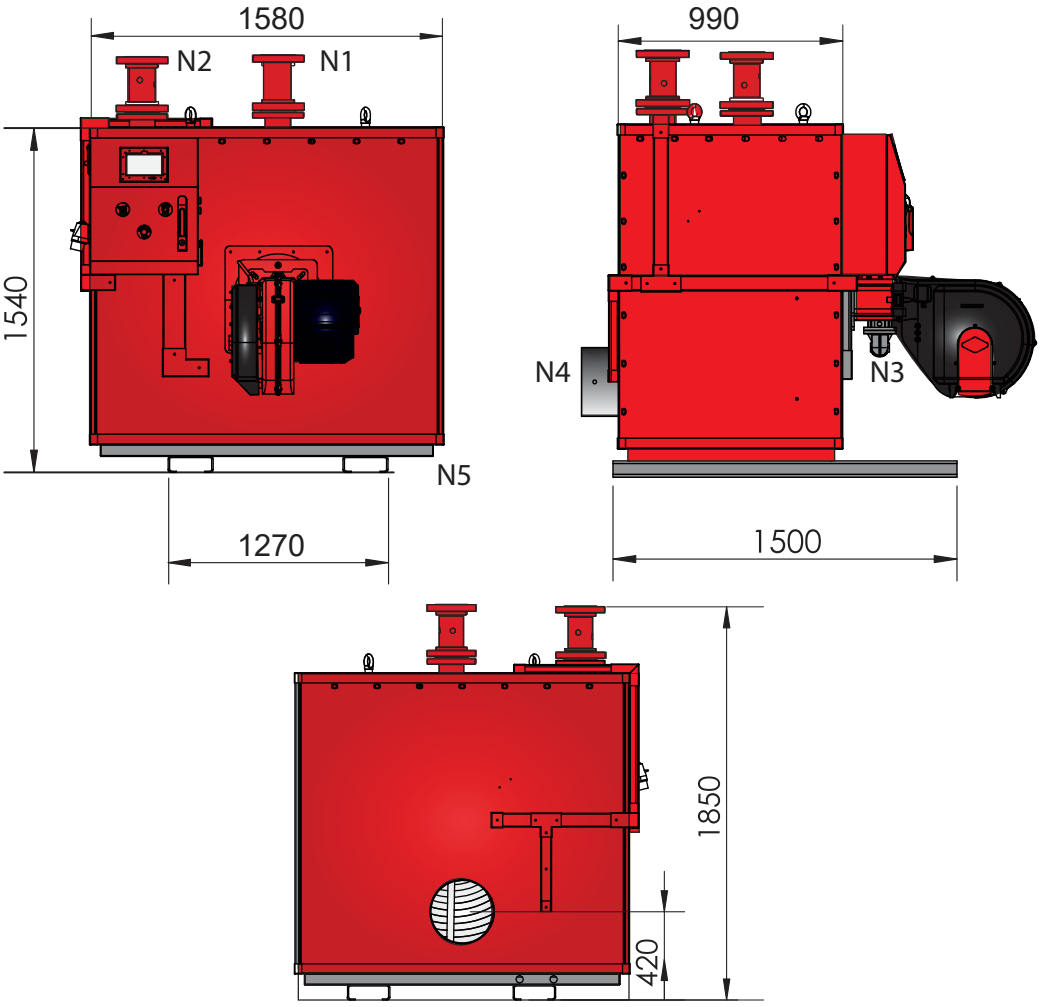
WATER-SIDE PRESSURE DROP CURVE



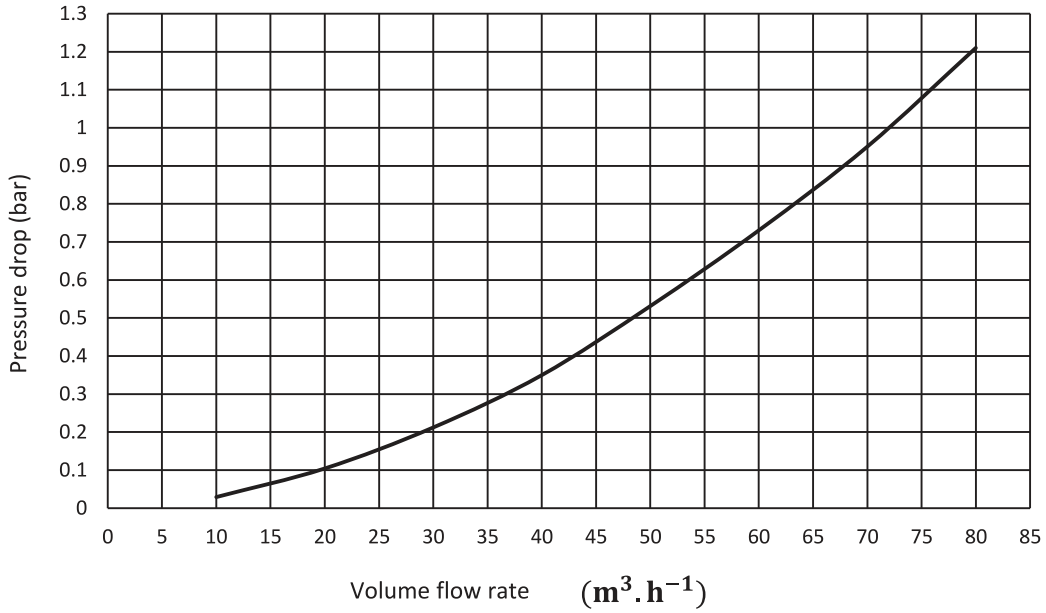
RAYKA Condensing Boiler 800.000 kcal/h

Model	Unit	800.000
Specification		
Heat Output (min-max)	kcal/h	200,000-800,000
Efficiency @ (30-50°C)	%	98
Efficiency @ (60-80°C)	%	91
NOX Class	-	2
Max Noise	dBA	80
Net Weight	kg	1300
Water Side		
Min Flow Rate	m^3/h	75
Max Working Pressure	bar	16
Water Side Pressure Drop at $\Delta T = 10$ °C	bar	1.2
Max Supply Temperature	°C	85
Max Condensate Flow Rate	L/h	118
Water Content	L	275
Combustion		
Gas Consumption Rate with Calorific Value 9200 (kcal/m3)	m^3/h	90
Max Flue Temperature at Condensing Mode (30-50°C)	°C	54
Flue Gas Flow Rate	kg/h	1500
Carbon Monoxide	ppm	< 100
Connections		
Supply Water Connection (N1)	in	4
Return Water Connection (N2)	in	4
Gas Connection (N3)	in	1 1/2
Flue Gas Outlet (N4)	mm	300
Condensate Drain (N5)	mm	32
Electrical		
Electric Power Suppl Voltage	V	380
Electric Power Supply Frequency	Hz	50
Pump Suggestion		
Head	m	12
Flow Rate	m^3/h	80

Dimensional Specifications:



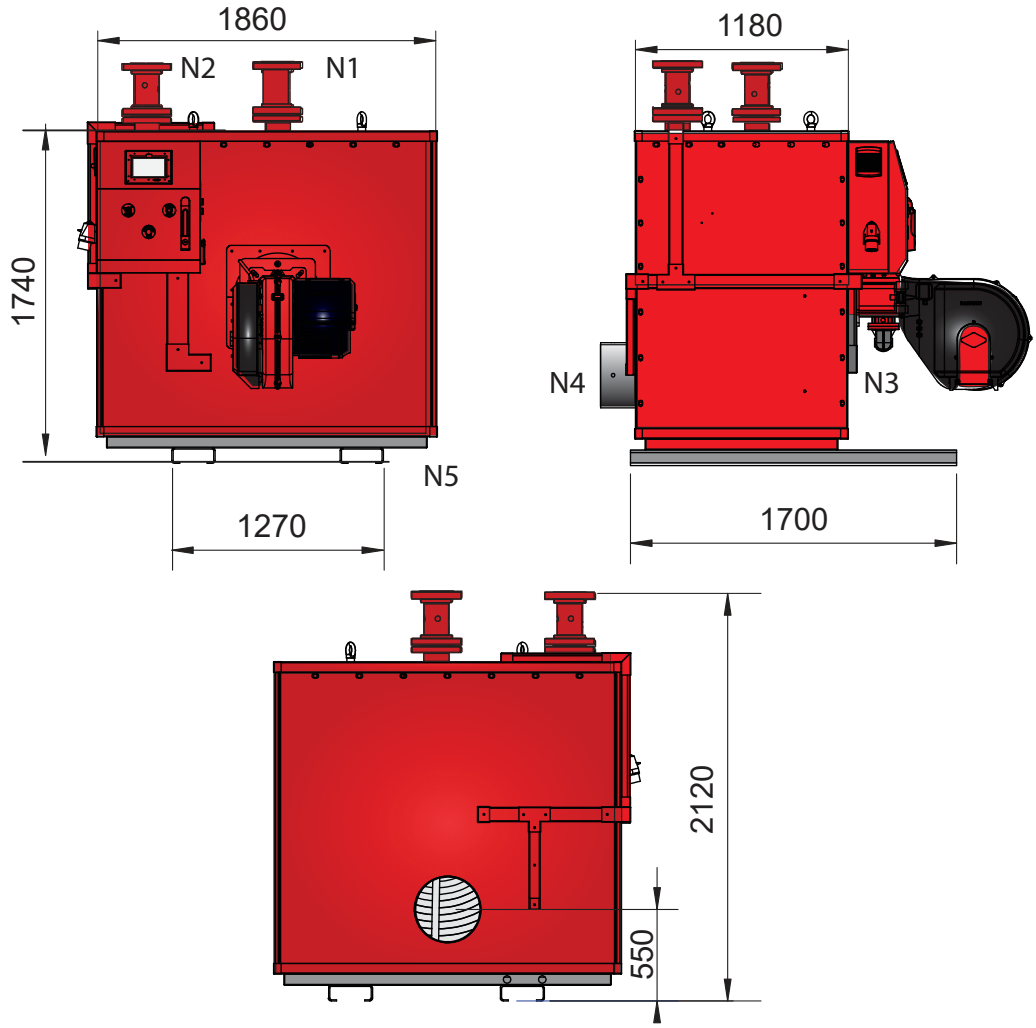
WATER-SIDE PRESSURE DROP CURVE



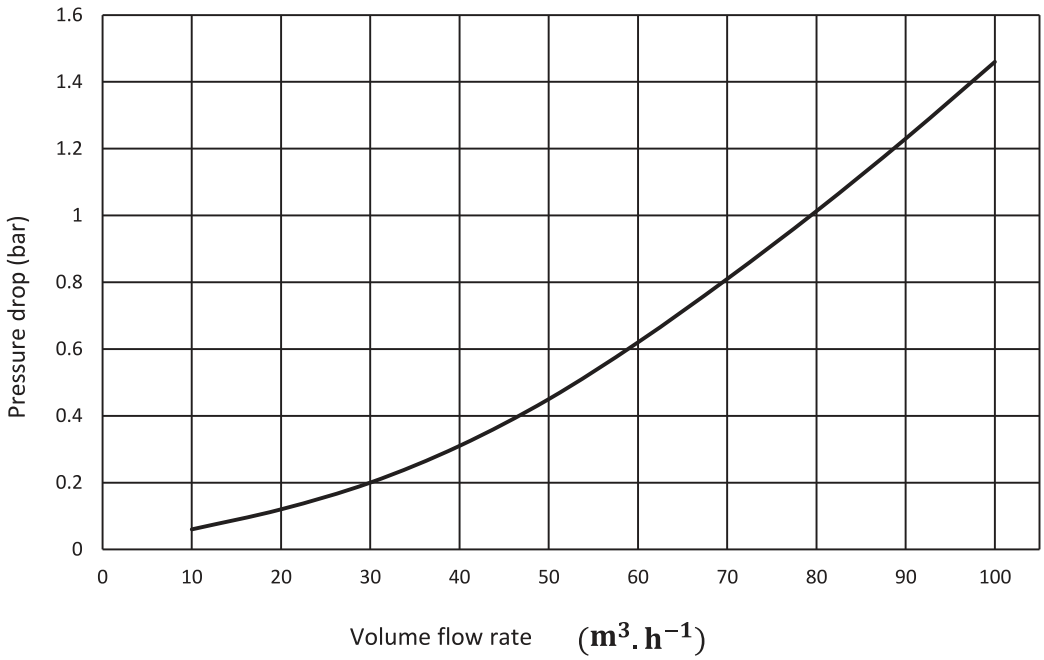
RAYKA Condensing Boiler 1.000.000 kcal/h

Model	Unit	1.000.000
Specification		
Heat Output (min-max)	kcal/h	250,000-1,000,000
Efficiency @ (30-50°C)	%	98
Efficiency @ (60-80°C)	%	91
NOX Class	-	2
Max Noise	dBA	85
Net Weight	kg	1500
Water Side		
Min Flow Rate	m^3/h	95
Max Working Pressure	bar	16
Water Side Pressure Drop at $\Delta T = 10$ °C	bar	1.4
Max Supply Temperature	°C	85
Max Condensate Flow Rate	L/h	148
Water Content	L	375
Combustion		
Gas Consumption Rate with Calorific Value 9200 (kcal/m3)	m^3/h	115
Max Flue Temperature at Condensing Mode (30-50°C)	°C	54
Flue Gas Flow Rate	kg/h	1880
Carbon Monoxide	ppm	< 100
Connections		
Supply Water Connection (N1)	in	5
Return Water Connection (N2)	in	5
Gas Connection (N3)	in	2
Flue Gas Outlet (N4)	mm	300
Condensate Drain (N5)	mm	32
Electrical		
Electric Power Suppl Voltage	V	380
Electric Power Supply Frequency	Hz	50
Pump Suggestion		
Head	m	14
Flow Rate	m^3/h	100

Dimensional Specifications:



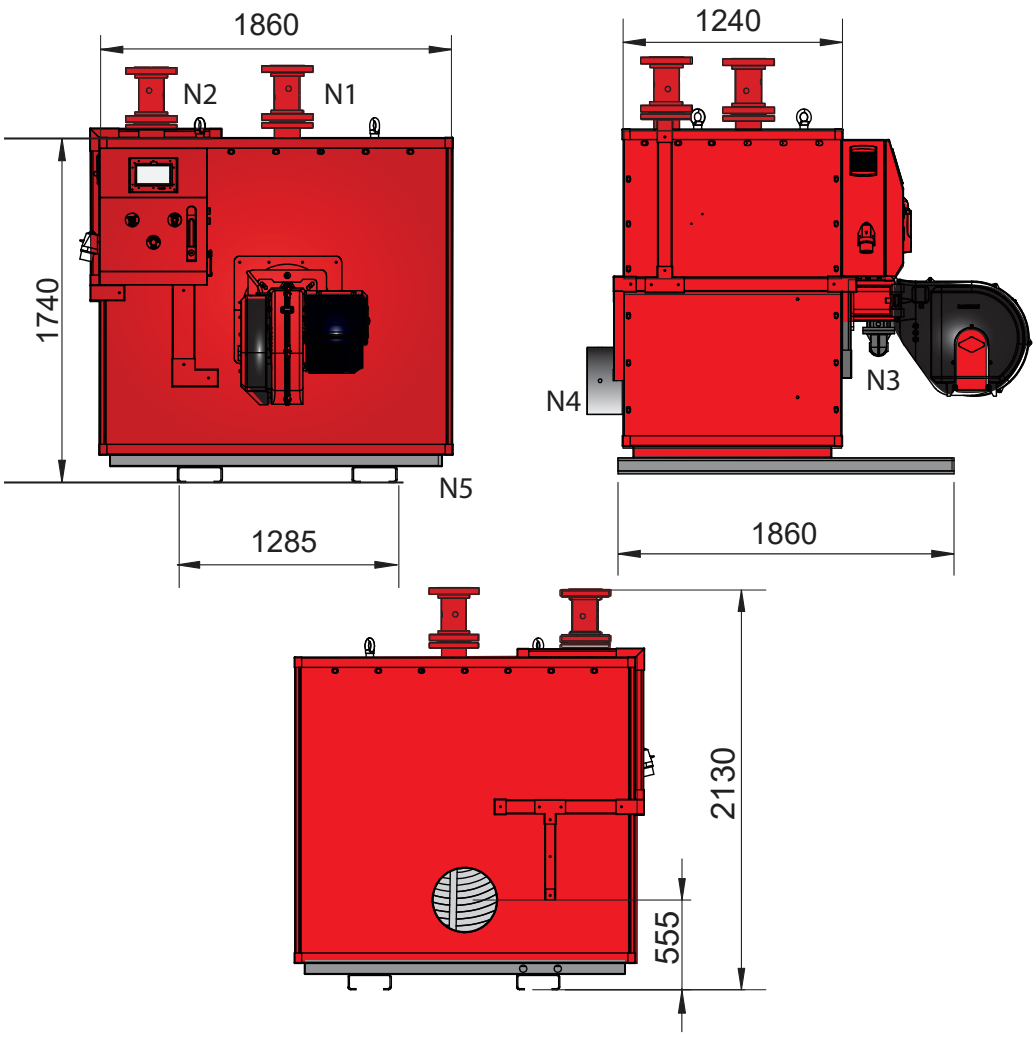
WATER-SIDE PRESSURE DROP CURVE



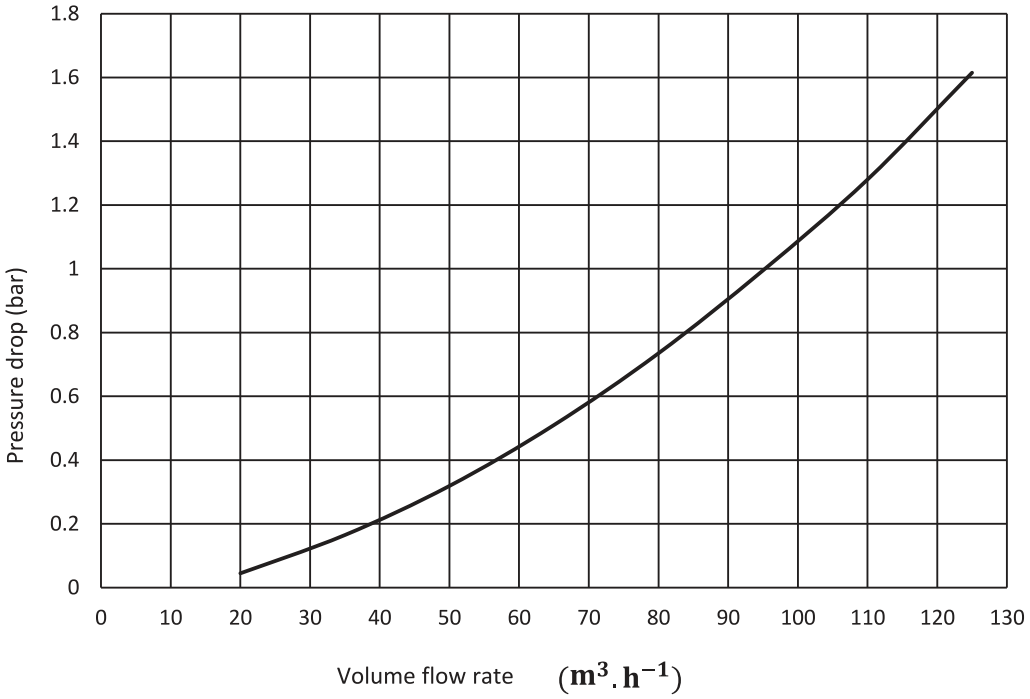
RAYKA Condensing Boiler 1.250.000 kcal/h

Model	Unit	1.250.000
Specification		
Heat Output (min-max)	kcal/h	200,000-1,250,000
Efficiency @ (30-50°C)	%	98
Efficiency @ (60-80°C)	%	91
NOX Class	-	2
Max Noise	dBA	85
Net Weight	kg	1700
Water Side		
Min Flow Rate	m^3/h	115
Max Working Pressure	bar	16
Water Side Pressure Drop at $\Delta T = 10$ °C	bar	1.6
Max Supply Temperature	°C	55
Max Condensate Flow Rate	L/h	185
Water Content	L	450
Combustion		
Gas Consumption Rate with Calorific Value 9200 (kcal/m3)	m^3/h	140
Max Flue Temperature at Condensing Mode (30-50°C)	°C	56
Flue Gas Flow Rate	kg/h	2345
Carbon Monoxide	ppm	< 100
Connections		
Supply Water Connection (N1)	in	6
Return Water Connection (N2)	in	6
Gas Connection (N3)	in	2
Flue Gas Outlet (N4)	mm	400
Condensate Drain (N5)	mm	32
Electrical		
Electric Power Suppl Voltage	V	380
Electric Power Supply Frequency	Hz	50
Pump Suggestion		
Head	m	16
Flow Rate	m^3/h	125

Dimensional Specifications:



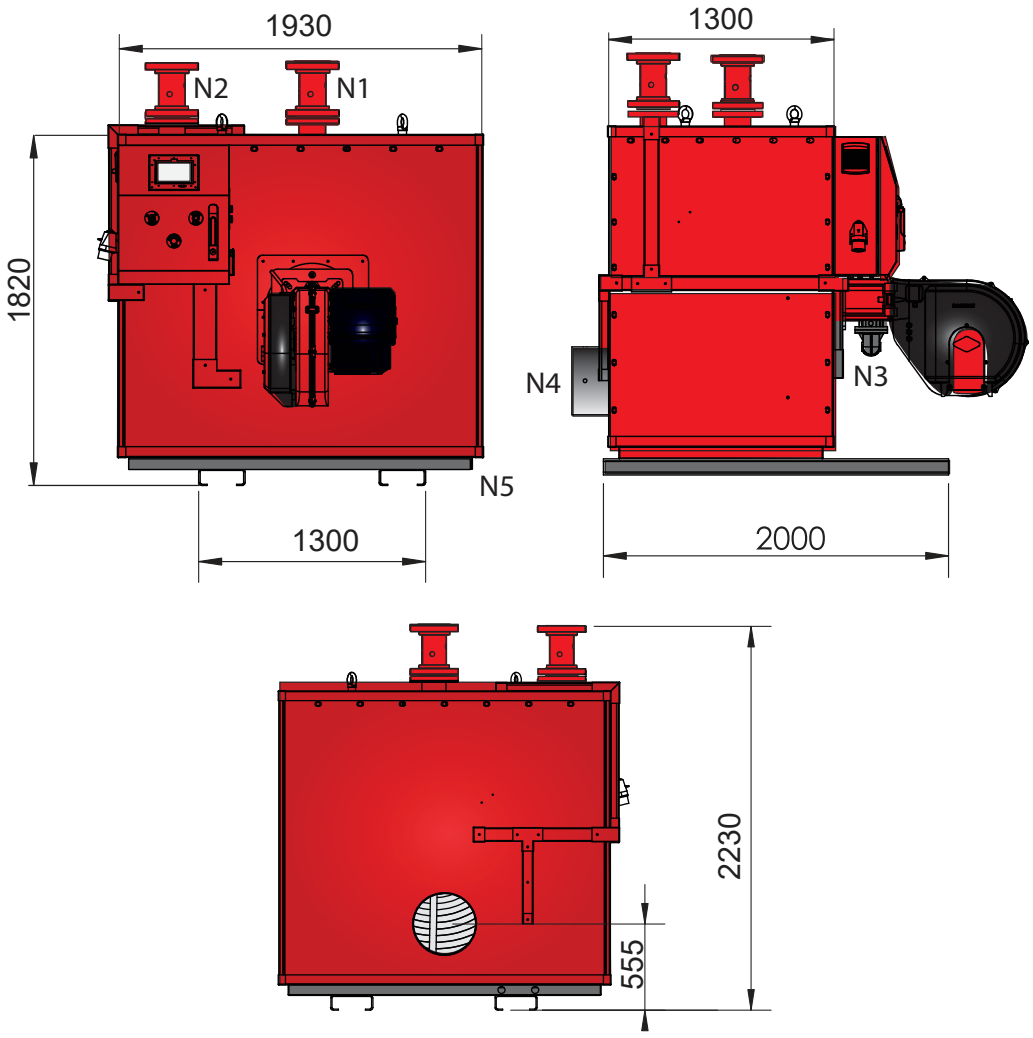
WATER-SIDE PRESSURE DROP CURVE

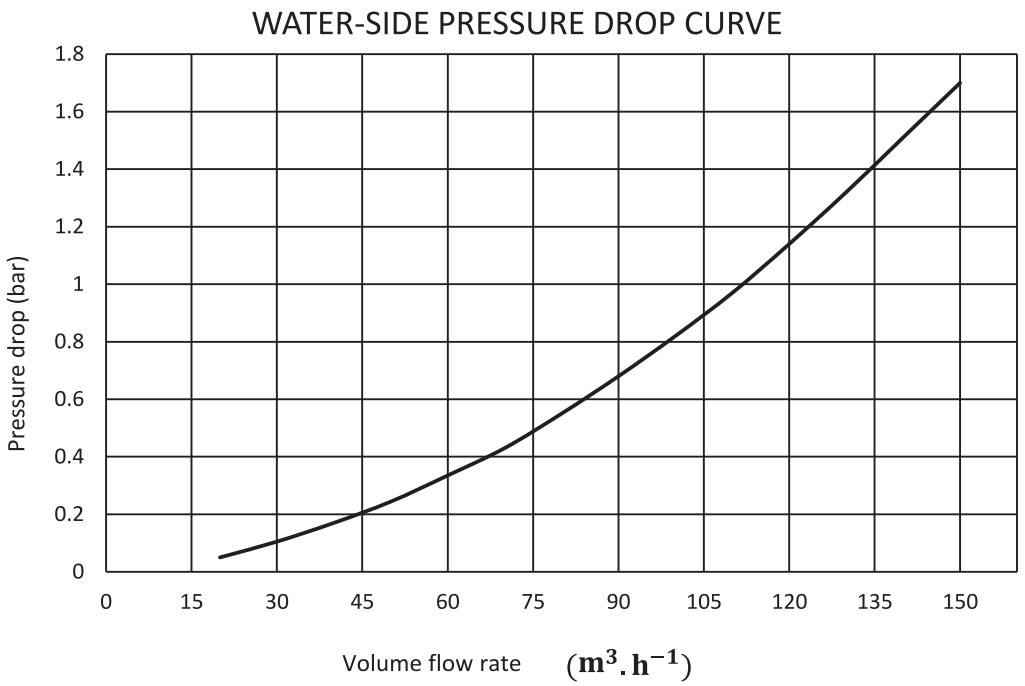


RAYKA Condensing Boiler 1.500.000 kcal/h

Model	Unit	1.500.000
Specification		
Heat Output (min-max)	kcal/h	250,000-1,500,000
Efficiency @ (30-50°C)	%	98
Efficiency @ (60-80°C)	%	91
NOX Class	-	2
Max Noise	dBA	85
Net Weight	kg	1900
Water Side		
Min Flow Rate	m^3/h	130
Max Working Pressure	bar	16
Water Side Pressure Drop at$\triangle$T = 10 °C	bar	1.7
Max Supply Temperature	°C	85
Max Condensate Flow Rate	L/h	222
Water Content	L	540
Combustion		
Gas Consumption Rate with Calorific Value 9200 (kcal/m3)	m^3/h	170
Max Flue Temperature at Condensing Mode (30-50°C)	°C	55
Flue Gas Flow Rate	kg/h	2814
Carbon Monoxide	ppm	< 100
Connections		
Supply Water Connection (N1)	in	6
Return Water Connection (N2)	in	6
Gas Connection (N3)	in	2
Flue Gas Outlet (N4)	mm	400
Condensate Drain (N5)	mm	32
Electrical		
Electric Power Suppl Voltage	V	380
Electric Power Supply Frequency	Hz	50
Pump Suggestion		
Head	m	17
Flow Rate	m^3/h	150

Dimensional Specifications:

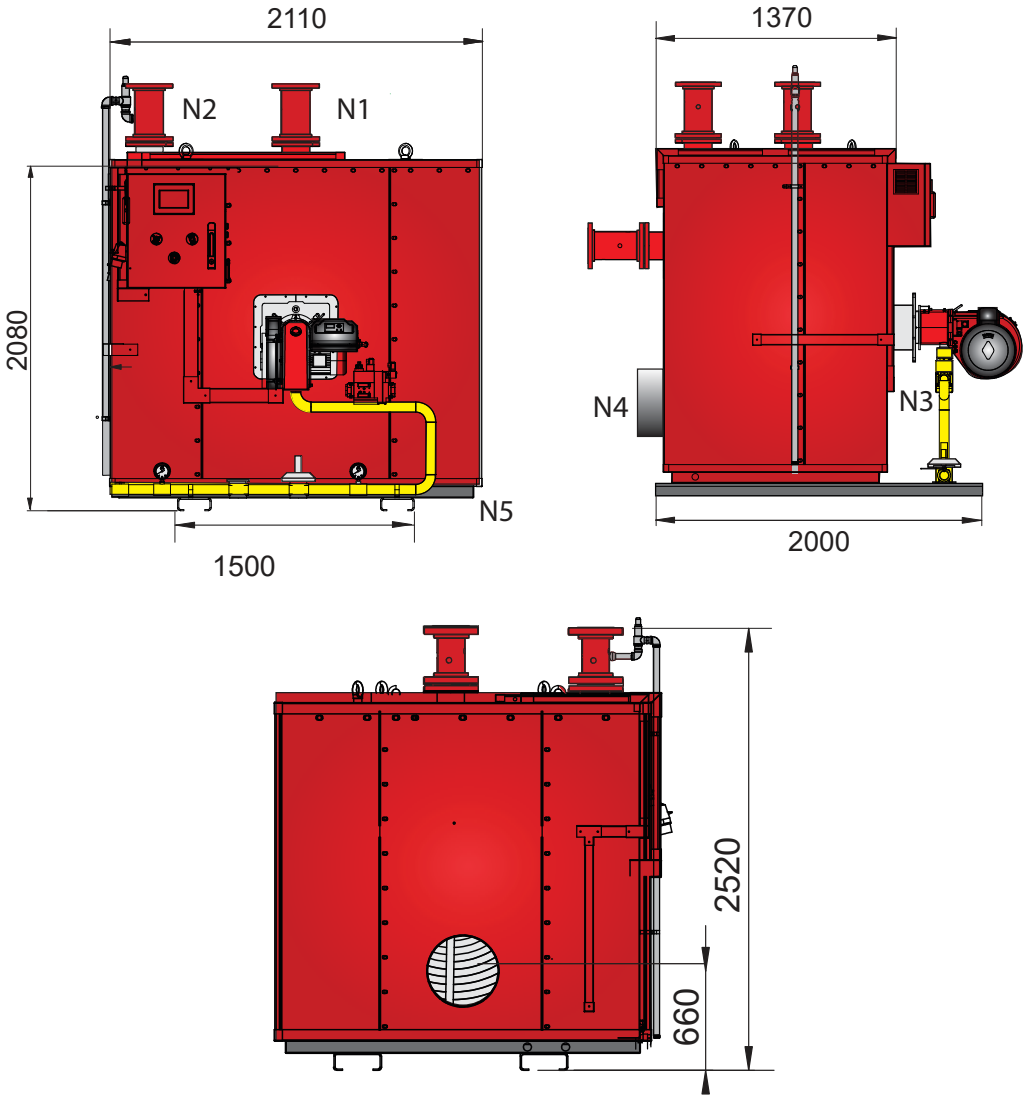




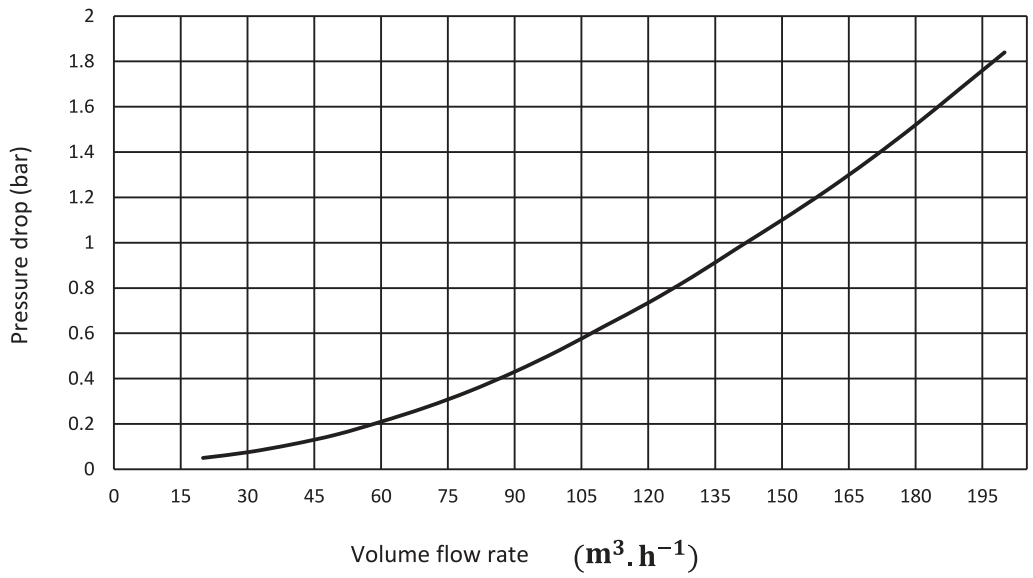
RAYKA Condensing Boiler 2.000.000 kcal/h

Model	Unit	2.000.000
Specification		
Heat Output (min-max)	kcal/h	350,000-2,000,000
Efficiency @ (30-50°C)	%	98
Efficiency @ (60-80°C)	%	91
NOX Class	-	2
Max Noise	dBA	85
Net Weight	kg	2200
Water Side		
Min Flow Rate	m^3/h	190
Max Working Pressure	bar	16
Water Side Pressure Drop at $\triangle T = 10$ °C	bar	1.8
Max Supply Temperature	°C	85
Max Condensate Flow Rate	L/h	296
Water Content	L	790
Combustion		
Gas Consumption Rate with Calorific Value 9200 (kcal/m3)	m^3/h	240
Max Flue Temperature at Condensing Mode (30-50°C)	°C	54
Flue Gas Flow Rate	kg/h	2345
Carbon Monoxide	ppm	< 100
Connections		
Supply Water Connection (N1)	in	6
Return Water Connection (N2)	in	6
Gas Connection (N3)	in	2
Flue Gas Outlet (N4)	mm	500
Condensate Drain (N5)	mm	32
Electrical		
Electric Power Suppl Voltage	V	380
Electric Power Supply Frequency	Hz	50
Pump Suggestion		
Head	m	19
Flow Rate	m^3/h	200

Dimensional Specifications:



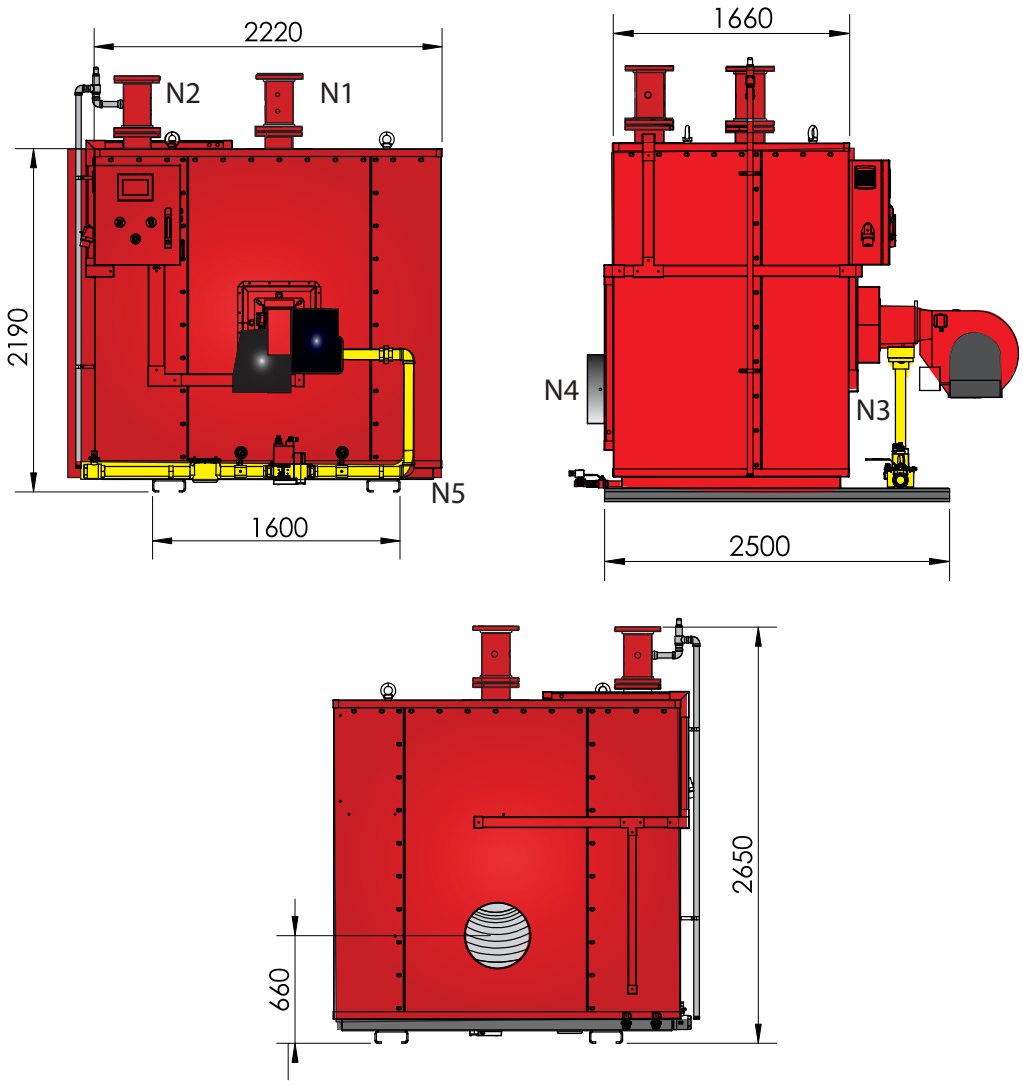
WATER-SIDE PRESSURE DROP CURVE



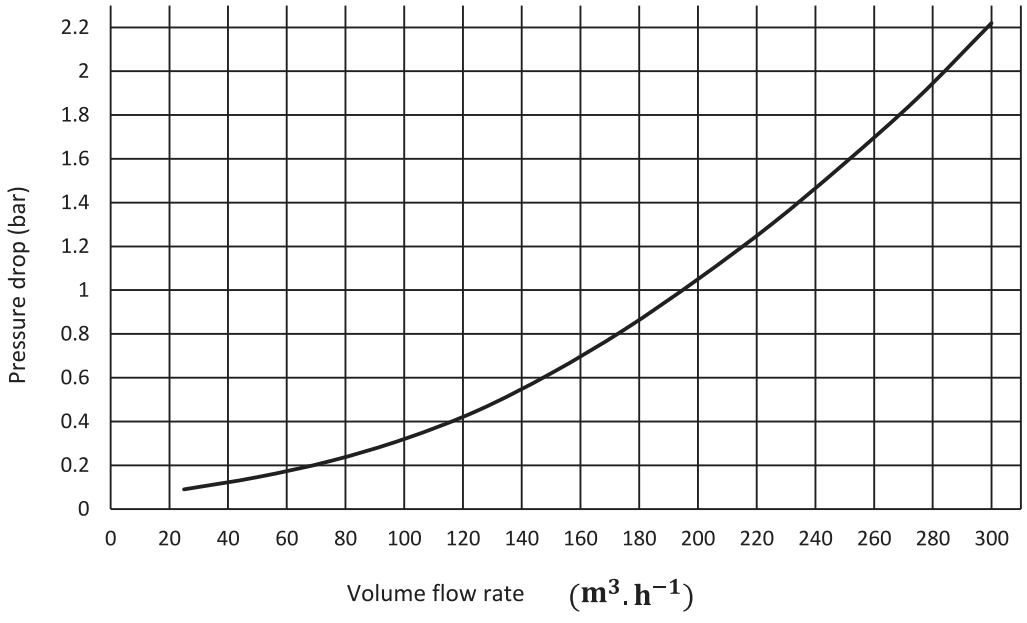
RAYKA Condensing Boiler 3.000.000 kcal/h

Model	Unit	3.000.000
Specification		
Heat Output (min-max)	kcal/h	500,000-3,000,000
Efficiency @ (30-50°C)	%	98
Efficiency @ (60-80°C)	%	91
NOX Class	-	2
Max Noise	dBA	89
Net Weight	kg	3000
Water Side		
Min Flow Rate	m^3/h	280
Max Working Pressure	bar	16
Water Side Pressure Drop at $\Delta T = 10$ °C	bar	2.2
Max Supply Temperature	°C	85
Max Condensate Flow Rate	L/h	444
Water Content	L	1200
Combustion		
Gas Consumption Rate with Calorific Value 9200 (kcal/m3)	m^3/h	360
Max Flue Temperature at Condensing Mode (30-50°C)	°C	54
Flue Gas Flow Rate	kg/h	5640
Carbon Monoxide	ppm	< 100
Connections		
Supply Water Connection (N1)	in	8
Return Water Connection (N2)	in	8
Gas Connection (N3)	in	3
Flue Gas Outlet (N4)	mm	600
Condensate Drain (N5)	mm	32
Electrical		
Electric Power Suppl Voltage	V	380
Electric Power Supply Frequency	Hz	50
Pump Suggestion		
Head	m	22
Flow Rate	m^3/h	300

Dimensional Specifications:



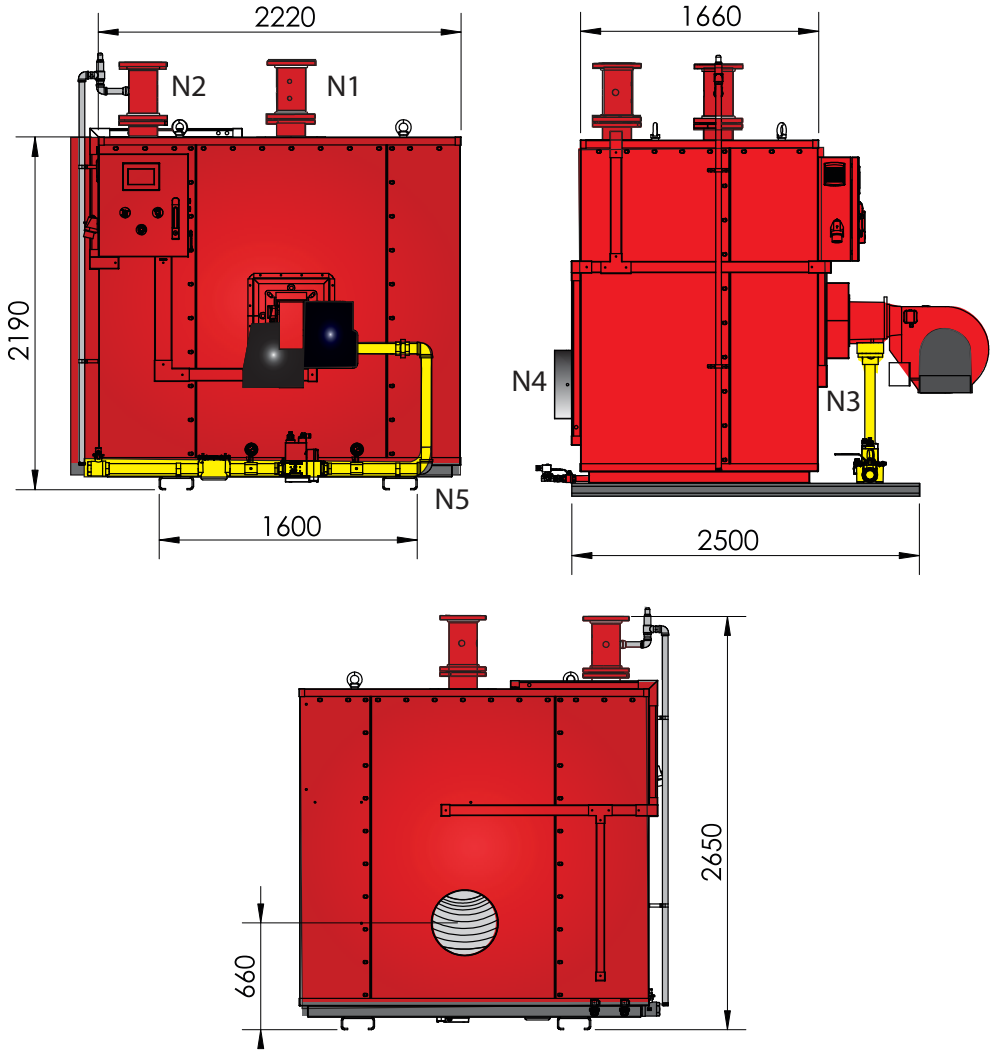
WATER-SIDE PRESSURE DROP CURVE



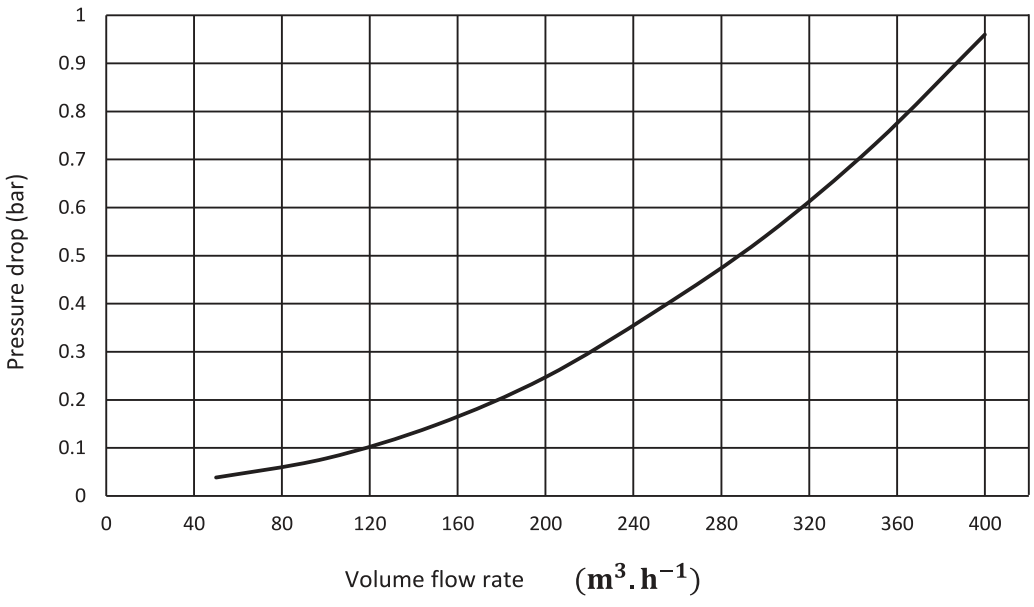
RAYKA Condensing Boiler 4.000.000 kcal/h

Model	Unit	4.000.000
Specification		
Heat Output (min-max)	kcal/h	650,000-4,000,000
Efficiency @ (30-50°C)	%	98
Efficiency @ (60-80°C)	%	91
NOX Class	-	2
Max Noise	dBA	89
Net Weight	kg	5700
Water Side		
Min Flow Rate	m^3/h	400
Max Working Pressure	bar	16
Water Side Pressure Drop at $\triangle T = 10$ °C	bar	0.9
Max Supply Temperature	°C	85
Max Condensate Flow Rate	L/h	592
Water Content	L	1800
Combustion		
Gas Consumption Rate with Calorific Value 9200 (kcal/m3)	m^3/h	450
Max Flue Temperature at Condensing Mode (30-50°C)	°C	53
Flue Gas Flow Rate	kg/h	7500
Carbon Monoxide	ppm	< 100
Connections		
Supply Water Connection (N1)	in	10
Return Water Connection (N2)	in	10
Gas Connection (N3)	in	3
Flue Gas Outlet (N4)	mm	650
Condensate Drain (N5)	mm	32
Electrical		
Electric Power Suppl Voltage	V	380
Electric Power Supply Frequency	Hz	50
Pump Suggestion		
Head	m	10
Flow Rate	m^3/h	400

Dimensional Specifications:



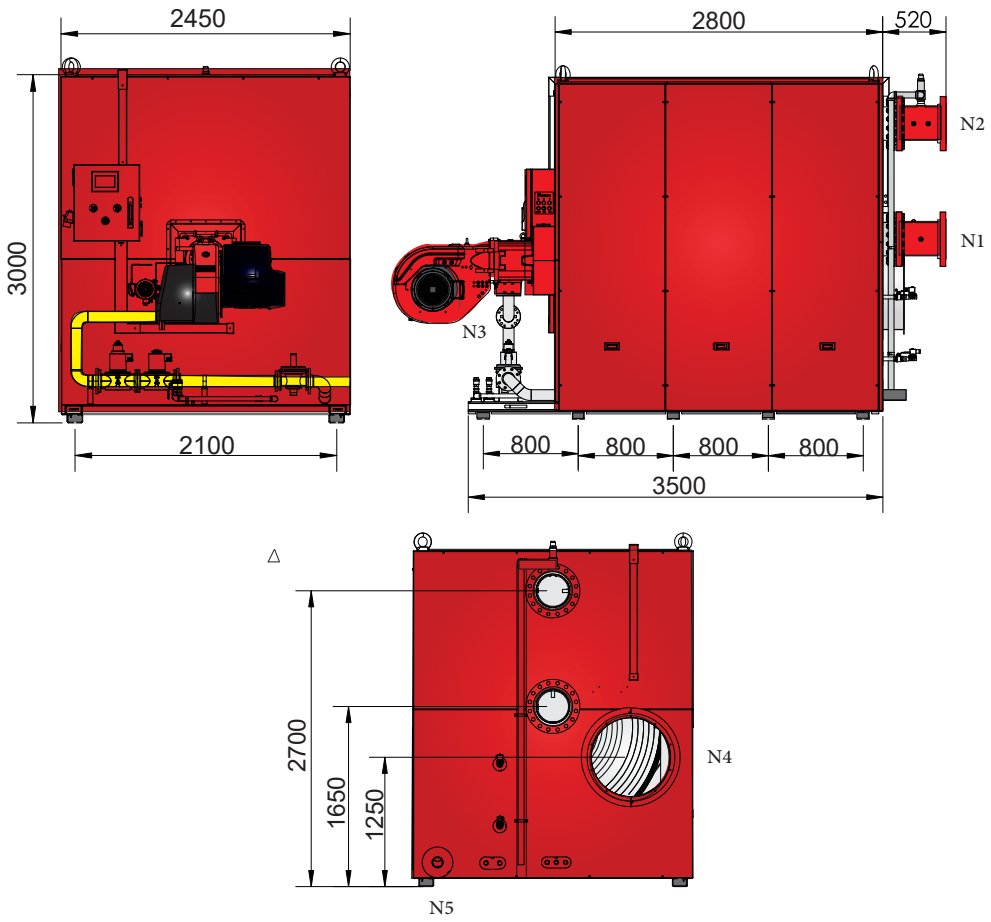
WATER-SIDE PRESSURE DROP CURVE

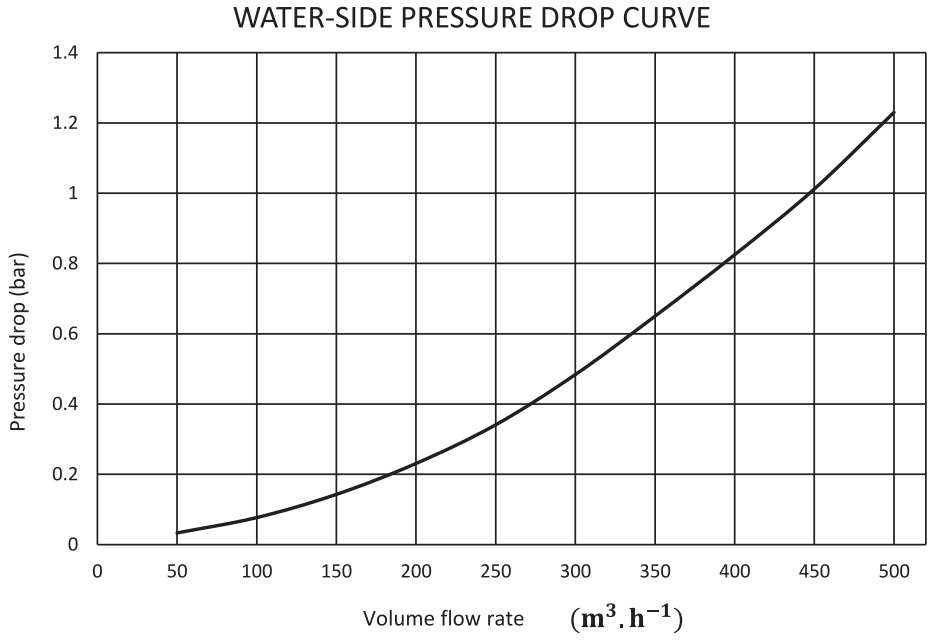


RAYKA Condensing Boiler 5.000.000 kcal/h

Model	Unit	5.000.000
Specification		
Heat Output (min-max)	kcal/h	800,000-5,000,000
Efficiency @ (30-50°C)	%	98
Efficiency @ (60-80°C)	%	91
NOX Class	-	2
Max Noise	dBA	89
Net Weight	kg	6200
Water Side		
Min Flow Rate	m^3/h	500
Max Working Pressure	bar	16
Water Side Pressure Drop at $\Delta T = 10$ °C	bar	1.2
Max Supply Temperature	°C	85
Max Condensate Flow Rate	L/h	740
Water Content	L	2000
Combustion		
Gas Consumption Rate with Calorific Value 9200 (kcal/m3)	m^3/h	560
Max Flue Temperature at Condensing Mode (30-50°C)	°C	53
Flue Gas Flow Rate	kg/h	9380
Carbon Monoxide	ppm	< 100
Connections		
Supply Water Connection (N1)	in	12
Return Water Connection (N2)	in	12
Gas Connection (N3)	in	3
Flue Gas Outlet (N4)	mm	700
Condensate Drain (N5)	mm	32
Electrical		
Electric Power Suppl Voltage	V	380
Electric Power Supply Frequency	Hz	50
Pump Suggestion		
Head	m	13
Flow Rate	m^3/h	500

Dimensional Specifications:





PACKMAN GROUP
History

The Packman Company was founded in February 1975, and was soon afterwards registered in companies Registration Office. In early years the Packman construction and service branch focused on building installations. Different mega power plants were built by cooperating with Brown Boveri and Asseck companies in 1976.

The company started its official activities in construction of High-Pressure Vessels such as Hot-Water Boilers, Steam Boilers , Storage Tanks, Softeners and Heat Exchangers from 1984.

Packman Company is one of the first companies which supplied the high quality and standard hot water boilers to the customers.

Packman has exported its products to countries such as Uzbekistan, United Arab Emirates and other countries in the Middle East. It is one of the largest producers of hot-water and steam boilers in the Middle East.

Now we are proud to announce that the Packman industrial group has five major sub-brands that have product titles in all field of HVAC equipment and engineering services, and we do not know this success except with the help and support of our customers.

1. Construction Services Industry Association
2. Industry Association
3. Construction Companies' Syndicate
4. Technical Department Association
5. Mechanical Engineering Association
6. Engineering Standard Association

Departements:

Sales Deps:
- ∩ Power Plant & Petrochemical
- ∩ Industrial
- ∩ Hospitally Service
- ∩ Commercial & Residential
- ∩ Sport Complex & Pool

Technical Deps:
- ≡ Manufacturing R&D
- ≡ Innovation Center
- ≡ EPC Execute Unit
- ≡ Product Develop Unit
- ≡ Sales Engineering Dep.

Others:
- ≈ After Sales Service
- ≈ Project Control
- ≈ Financial Office
- ≈ Commercial Office
- ≈ Marketing Department

PACKMAN GROUP
Brands

PACKMAN
Industrial Group

Designer&manufacturer of Condensing, Hot Water, Steam, Hot Oil& Waste Heat Boilers, Heat Exchangers, Autoclave Pressure&Storage Vessels&etc

GREENMAN
Green mindset, green future

Engineering& Designing Commercial Greenhouse Plant, CO2 Dosing System, Flue gas Condenser& Special HVAC Systems, Sustainable Agriculture &etc

ROMAN
Water solution

Designer&manufacturer Reverse Osmosis Plant& Package, Water Treatment, Softener& Filters and Chemical Dosing Systems&etc

RAADMAN
a look to the future

Designer&manufacturer of Industrial Mono&Dual Block Gas, LPG, Light& Heavy Oil Burners, Premixed&Postmixed Burners, Watertube burners, Process burners, Special application burners&Combustion Solutions&etc

CHILLMAN
Coolest hvac around

Designer&manufacturer of Air&Water Cooled Chillers, Air Handling Units, Fancoil, HVAC Equipment, Cold Storage Room&etc

1. Isfahan Factory

2. Vilashahr Factory

3. Parand Factory

4. Parand (2) Factory

5. Bonyad Factory

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