



# Oil and Gas-Fired **Cast Iron Boiler**

Konforal



76 - 930 kW



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**Varied Options:**

22 models with capacities between 65.000-800.000 Kcal/hour.

**Elastic Casting Technology:**

Cast iron panel boilers are produced by using Elastic Casting Technology provided by special alloys of EN GJL 200 material. The resistant of the cast sections against to thermal shocks is increased to high levels by the special alloy materials used at cast production.

**Environmentally Friendly:**

With its special designed combustion chamber perfect conditions of combustion and lowest values for emission rates.

**3 Pass Flue Gas System:**

3 Pass Flue Gas System Most efficient burnery is attained by forcing flames & combustion gases to flow through 3 independent parts of heat transfer volumes. Flow through low temperature combustion chamber allows low NOx values to be attained than regular boiler systems.

**Insulation:**

By covering the iron cast boiler sections with 80 mm glass wool including aluminum folio coating perfect insulation is provided. By using ceramic fiber insulation material with 1300°C resistant at the front cover the high temperature may occur here is prevented.

**Combustion Chamber:**

With special designed winglets inside the combustion chamber and combustion gas pipes the heat transmission surfaces are increased and so by maximization of the heat transmission boiler output is increased.

**Perfect compatible Perfect Compatible Operation With Gas/Diesel Fuel Burners:**

Full operating compatibility with standards, gas, diesel and fuel oil burners and efficient operating.

**Flame Monitoring:**

Monitoring of the burner flame without opening the front cover is possible by monitoring glass resistant against high temperature.

**Easy Installation:**

Because the cast iron boilers can be carried as slices to the boiler room, it does not create a problem, such as destruction of any wall. The installation is very easy. Simple and Easy

**Maintenance:**

Because the front cover can be removed from front side it makes simpler the maintenance.

**Full Quality Control:**

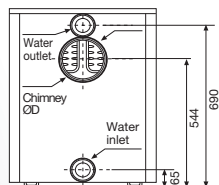
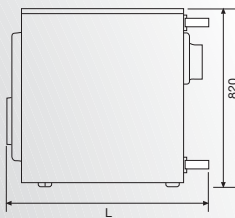
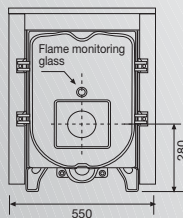
The boiler panels were tested 100% at 8-10 bars.

**Guarantee:**

The cast iron boilers are under the 5 years guarantee of manufacturer for the production defects.



## ADK 100 SERIES BOILERS

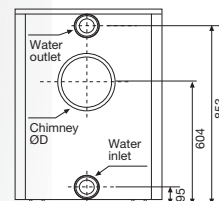
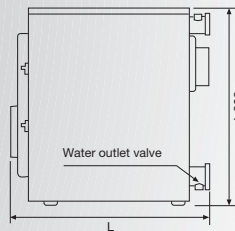
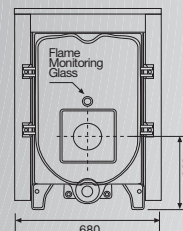


Product Type	ADK 100					
Section Number	5	6	7	8	9	
Heat Output	kcal/h	65,000	80,000	95,000	110,000	125,000
	kW	76	93	111	128	145
Operating Temperature	°C	90	90	90	90	90
Gas Side Resistance	mbar	1.6	1.7	1.9	2.2	2.4
	mmSS	16	17	19	22	24
Water Content	lt	55	65	75	85	95
Operating Pressure	bar	6	6	6	6	6
Chimney Diameter (ØD)	mm	150	150	180	180	180
Combustion Chamber Diameter	mm	336	336	336	336	336
Combustion Chamber Length	mm	550	670	790	910	1,030
Water Inlet - Outlet	inch	2	2	2	2	2
Weight (Empty)	kg	289	334	381	429	474
Boiler Length (L)	mm	800	920	1,050	1,170	1,300
Base Plate Length	mm	900	1,020	1,150	1,270	1,400
Base Plate Width	mm			650		

Medium or heavy oil burners should not be used for 100 series boilers.

Note: The base plate thickness must be at least 20 cm.

## ADK 200 SERIES BOILERS



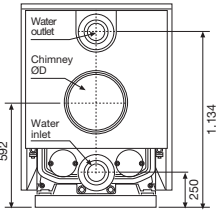
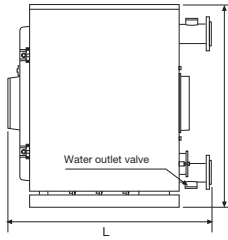
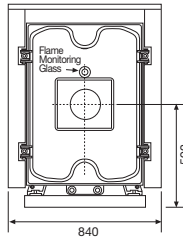
Product Type		ADK 200						
Section Number		5	6	7	8	9	10	11
Heat Output	kcal/h	140,000	167,500	195,000	222,500	250,000	277,500	305,000
	kW	163	195	227	259	291	323	355
Operating Temperature	°C	90	90	90	90	90	90	90
Gas Side Resistance	mbar	1,5	1,6	1,8	2,0	2,3	2,6	2,9
	mmSS	15	16	18	20	23	26	29
Water Content	lt	77	93	109	125	141	157	173
Operating Pressure	bar	6	6	6	6	6	6	6
Chimney Diameter (ØD)	mm	180	180	250	250	250	250	250
Combustion Chamber Width	mm	442	442	442	442	442	442	442
Combustion Chamber Height	mm	391	391	391	391	391	391	391
Combustion Chamber Lenght	mm	691	835	979	1.123	1.267	1.411	1.555
Water Inlet – Outlet	inch	3	3	3	3	3	3	3
Weight (Empty)	kg	483	560	636	715	792	869	947
Boiler Length (L)	mm	1.070	1.220	1.360	1.510	1.650	1.800	1.940
Base Plate Length	mm	1.170	1.320	1.460	1.610	1.750	1.900	2.040
Base Plate Width	mm				780			

Note: The base plate thickness must be at least 20 cm.

CE and TSE certificates do not cover boiler with liquid fuel.

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# ADK 300 SERIES BOILERS

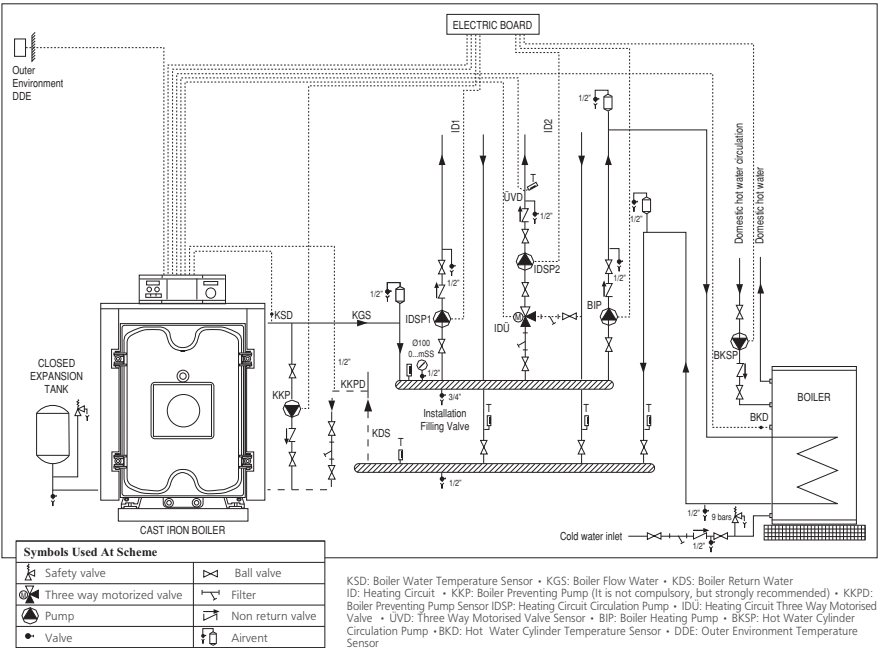


Product Type	ADK 300									
Section Number	7	8	9	10	11	12	13	14	15	16
Heat Output	385.000	435.000	485.000	525.000	570.000	615.000	665.000	715.000	755.000	800.000
Operating Temperature	90	90	90	90	90	90	90	90	90	90
Gas Side Resistance	1,90-2,40	2,25-2,75	2,55-3,10	2,80-3,35	3,15-3,70	3,45-4,05	3,80-4,35	4,10-4,75	4,45-4,95	4,85-5,50
Water Content	174,0	198,5	223,0	247,5	272,0	296,5	321,0	345,5	370,0	394,5
Operating Pressure	6	6	6	6	6	6	6	6	6	6
Chimney Diameter (ØD)	350	350	350	350	350	350	350	350	350	350
Combustion Chamber Width	501	501	501	501	501	501	501	501	501	501
Combustion Chamber Length	1.070	1.230	1.390	1.550	1.710	1.870	2.030	2.190	2.350	2.510
Water Inlet-Outlet	4	4	4	4	4	4	4	4	4	4
Weight (Empty)	1.160	1.300	1.440	1.580	1.720	1.860	2.000	2.140	2.280	2.420
Boiler Length (L)	1.460	1.620	1.780	1.940	2.100	2.260	2.420	2.580	2.740	2.900
Base Plate Length	1.560	1.720	1.880	2.040	2.200	2.360	2.520	2.680	2.840	3.000
Base Plate Width	940									

CE and TSE certificates do not cover boiler with liquid fuel.

Note: The base plate thickness must be at least 20 cm.

## Installation Scheme of Two Zone, Eco Panel Boilers



### Symbols Used At Scheme

	Safety valve		Ball valve
	Three way motorised valve		Filter
	Pump		Non return valve
	Valve		Airvent

KSD: Boiler Water Temperature Sensor • KGS: Boiler Flow Water • KDS: Boiler Return Water  
ID: Heating Circuit • KKP: Boiler Preventing Pump (It is not compulsory, but strongly recommended) • KKP: Boiler Preventing Pump • IDSP: Heating Circuit (Circulation Pump • IDU: Heating Circuit Three Way Motorised Valve • UVD: Three Way Motorised Valve Sensor • BIP: Boiler Heating Pump • BKS: Hot Water Cylinder Circulation Pump • BKD: Hot Water Cylinder Temperature Sensor • DDE: Outer Environment Temperature Sensor

## Special Designed Section With 3 Pass Flue Gas System

The combustion is executed at the 1<sup>st</sup> pass inside the combustion chamber that the combustion surface maximized by winglets.

The flue gasses occurred after combustion follows the 2<sup>nd</sup> and 3<sup>rd</sup> passes in order and exits the boiler by way of smoke pipes.

The circuit's return water enters from the bottom installation connection of the boiler at the backside of it and passes through the collector that provides equal distribution of circulation water among sections. The circulation water passed through collector exits the boiler by way of the connection at the top after being heated inside the sections. High heat efficiency is achieved with combustion room design, winglets, turbulators, collector and wide water channels of the sections.



**thermix®**

Due to special design thermix® system, boiler's return water is rapidly directed to the front part of boiler via the turbulence passing through the adaptor by turning it and due to the special narrowing adaptor design. Hot water transfer from rear parts to front parts is secured due to the impact created by the water turning and accelerated while passing to front. The cold return water and hot water in the boiler mixes and then the temperature of the return water rises. Thus, the temperature of the water going to back part of the boiler rises and the condensation is prevented.

The task of the By-Pass pump in the installations is undertaken by thermix® system. There is no need to use a separate By-Pass pump. This system is available in ADK 200 and ADK 300 series. ADK 100 series again is provided with a similar system that removes the necessity for use of the -By-Pass pump.

## Control Panels

### Comformatic - Standard Panel (PS)



1. Control Panel Fuse (6 A)
2. Safety Limit Thermostat (100°C)
3. Boiler Temperature Gauge (10-120°C)
4. Main Power Switch (O/I)
5. Main Power Indicator Lamp
6. Limit Thermostat Failure Indicator
7. First and Second Stage Thermostat (30-85°C/7K)

## Boiler Optional Control Panel

### Comformatic - Eco Panel (PE 7/21 or PE 12/31)



1. Control Panel Fuse (6 A)
2. Safety Limit Thermostat (100°C)
3. Boiler Temperature Gauge (10-120°C)
4. Main Power Switch (0/I)
5. Main Power Indicator Lamp
6. Limit Thermostat Failure Indicator Lamp
7. Eco Panel (Microprocessor)
8. First and Second Stage Thermostat (30-85°C/7K)

### Excellent Comfort and Reliable Operation with Eco Panel

Fuel savings up to 20%, or up to 35% if used with three way motorized valve.

Eco panel is a microprocessor, which controls your system most efficiently, economically and optimum for protecting and extending lifetime of your product while offering maximum comfort.

**Continuous Comfort:** Eco panel monitors the internal temperature whole day. It calculates the difference between required comfort temperature and these values and operates the boiler to provide the comfort.

circulation pump for a short time at the time burner starts and stops to provide protection against the condensation inside the chimney gas, which effects the lifetime of a boiler negatively. The temperature of boiler increases very fast and so no condensation in critical regions. **Protection Against High And Low Temperatures:** In case the temperature of boiler water decreases to freezing point Eco panel starts and operates the boiler, so protects the installation and boiler water from freezing. If the temperature increases very high it stops the boiler.

**Protection Against Limescales And Sediments:** The Eco panel operates the boiler at intervals to prevent the pump, valves and boiler from being blockaded by limescales in case the boiler doesn't operate for a long time.

**Remote and Manuel Control:** The system can be operated by digital or analog room unit without going to the boiler room. In case it is required, by pushing a single button it is possible to turn to the manual-operating mode.

**Fuel Economy:** Eco panel monitors the external temperature whole day. Even taking into consideration the heat storing of the building walls and radiance of this heat to environment, it calculates the "reduced external temperature". It operates the boiler in accordance with this temperature. It doesn't consume much fuel.

**Economy At All Conditions:** It also provides fuel economy even at nights by "Economy Temperature". By automatic summer-winter option, in case the temperature of the external environment increases over the selected value it operates the boiler at summer mode and so prevents against overheating.

**Heating With Program:** The operating times and temperatures can be adjusted daily or weekly.

**Optimum Start-Stop:** It calculates the number of starting of boiler and operating times by taking into consideration of weekly operating program and adjusted room temperature. It controls the operation of the boiler in accordance with this and it doesn't operate the boiler even for one more second.

### Eco Panel Special Feature

Function	Eco Panel (PE 7/21)	Eco Panel (PE 12/31)
Single zone (single stage burner)	X	X
Single zone (double stage burner)	X	X
Double zone (single stage burner)	X	X
Double zone (double stage burner)	-	X
Modulation burner	-	X
Cascade (to 5 boiler with addition panels)	X	X
Boiler	X	X
Boiler electrical heater	X	X
First circulation pump	X	X
Second circulation pump	-	X
Solar energy	X	X

The right to amend specifications under technological developments is reserved

**ALARKO**



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