



## Universal Hotwater Boilers

TKU-E boilers are flue fire-tube, two-tensile, large-capacity boilers determined for the combustion of liquid and gaseous fuels. The combustion chamber size is designed so as to minimize emissions. The design pressure of KU line boilers is 0,6; 1,0 or 1,6 MPa. The boilers are supplied on a standard frame, including insulation with sheeting and a service platform. The supply includes the respective fittings. The boilers are equipped with economizers (eco). It is possible to place behind the boiler condensate exchangers, which utilizes the vapour heat included in the flue gas. The design, manufacturing, testing and additional equipment of boilers are done according to the CSN technical standards.

Standard boiler equipment:

- Safety valve - 2x
- Closing valve - water inlet DN 250 - 1 x
- Closing valve - water outlet DN 250 - 1x
- Air relieve valve DN 40 - 1x
- Intermittent blowdown valve DN 40 - 1x
- Manometer - 1x
- Thermometer measuring on water piping inlet - 1x
- Thermometer measuring on water piping outlet - 1x
- Thermometer for outlet flue gas measuring - 1x
- Manometer for water pressure (min.,max.) - 2x
- Temperature sensor (max. outlet water temperature) - 1x
- Thermostat (min. inlet water temperature) - 1x
- Emergency thermostat max. outlet water temperature - 1x

### Technical Parameters - TKU 6000-E

Parameters	Units	TKU 6000-E
Rated thermal capacity	<i>kW</i>	6000
Maximum thermal capacity	<i>kW</i>	6600
Maximum overpressure	<i>MPa</i>	(0,6 ; 1,0 ; 1,6)
Minimum steam overpressure**	<i>MPa</i>	0,2 - 0,4
Nominal temperature of superheated steam*	%	92
Efficiency - with eco	%	96
Flue gas temperature - boiler without eco	°C	180
Flue gas temperature - boiler with eco	°C	
Minimum temperature of circulated water-inlet	°C	60
Maximum outlet temperature of water	°C	110
Minimum allowed temperature drop of circulated water	°C	10
Temperature of sucked air	°C	20
Maximum fuel consumption - natural gas	<i>Nm<sup>3</sup>/hr</i>	759
Amount of combusted air (lambda=1,1)	<i>Nm<sup>3</sup>/hr</i>	8045
Amount of flue gases	<i>Nm<sup>3</sup>/hr</i>	8880
Overpressure in the furnace - boiler without eco	<i>Pa</i>	650
Overpressure in the furnace - boiler with eco	<i>Pa</i>	150
Middle volume load of combustion chamber	<i>MW/Nm<sup>3</sup></i>	1,1
Water volume of boiler	<i>m<sup>3</sup></i>	8,6
Water volume of eco with connecting piping	<i>m<sup>3</sup></i>	0,5
Heating surface of boiler	<i>m<sup>2</sup></i>	176
Heating surface of eco	<i>m<sup>2</sup></i>	277,6
Noise level	<i>dB</i>	Max.80
<b>Emissions***</b>		
Natural gas	<i>mg/Nm<sup>3</sup></i>	NOx - 100 CO - 100

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KU Boiler weight		
Boiler weight	kg	18600
Eco weight	kg	2400
Boiler operating weight	kg	30 850
Boiler dimensions		
Boiler length	mm	6500
Boiler width	mm	2300
Boiler width with eco	mm	2400
Boiler height without eco	mm	2460
Boiler height with eco	mm	3750
Diameter of flue gas branch	mm	700
Diameter of inlet and outlet water branch		DN 250
Safety branch		2xDN80
Intermittent blowdown branch		DN 50
Eco drainage branch		G1"
Condensate outlet branch		G1"
Assembly hole - boiler without eco	mm	2,6 x 3
Assembly hole - boiler with eco	mm	2,6 x 3,7
Space on right side (in direction from burner)	mm	600
Space on left side (in direction from burner)	mm	1200
Space behind boiler	mm	800
Space in front of boiler Possible to put gate or make assembly hole	mm	5000

\*\*\* Emissions relate to 3% O<sub>2</sub> in dry combustion products at t = 0°C and barometric pressure.